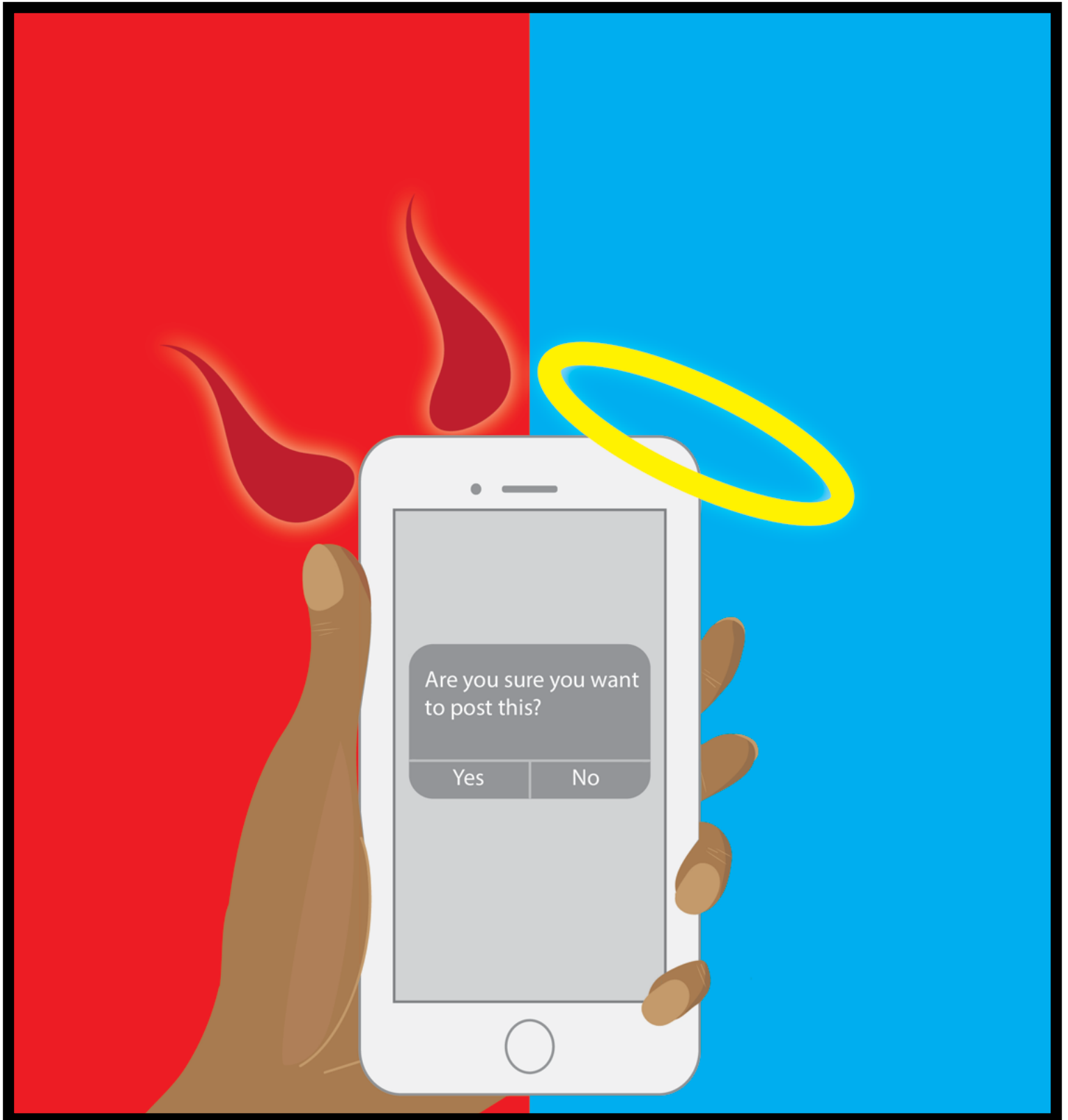


Technical COMMUNICATION

Journal of the Society for Technical Communication



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Journal of the Society for Technical Communication

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The Society for Technical Communication is the largest association of technical communicators in the world. STC is currently classifying the Body of Knowledge for the field and communicating the value of technical communication. Its volunteer leadership continues to work with government bodies and standards organizations to increase awareness and accurate perception of technical communication. Membership is open to all with an interest in technical communication. Visit the STC website (www.stc.org) for details on membership categories, fees, and benefits.

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About the Journal

Technical Communication is a peer-reviewed, quarterly journal published by the Society for Technical Communication (STC). It is aimed at an audience of technical communication practitioners and academics. The journal's goal is to contribute to the body of knowledge of the field of technical communication from a multidisciplinary perspective, with special emphasis on the combination of academic rigor and practical relevance.

Technical Communication publishes articles in five categories:

- Applied research – reports of practically relevant (empirical or analytical) research
- Applied theory – original contributions to technical communication theory
- Case history – reports on solutions to technical communication problems
- Tutorial – instructions on processes or procedures that respond to new developments, insights, laws, standards, requirements, or technologies
- Bibliography – reviews of relevant research or bibliographic essays

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Communication is to inform, not impress. Write in a clear, informal style, avoiding jargon and acronyms. Use the first person and active voice. Avoid language that might be considered sexist, and write with the journal's international audience in mind.

Our authority on spelling and usage is The American Heritage Dictionary, 4th edition; on punctuation, format, and citation style, the Publication Manual of the American Psychological Association, 6th edition.

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- Page 3: Up to five keywords and a practitioner's takeaway (maximum 100 words) displayed as a bulleted list summarizing the practical implications of the article
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Sam Dragga, Editor



Discovering the Mosaic of Research Profiles

Each issue of *Technical Communication* offers a variety of articles by a variety of authors, with each author usually contributing a single article to the issue. This important and historical practice of virtually every scholarly journal gives voice to the diversity of research in a field, but it does obscure a key trait of this research: None of the articles exist in isolation from the author's earlier or later research projects. Obviously, each article must be a separate and independent study that is itself worthwhile reading, but each is also a piece in the mosaic of the author's research profile, and each asserts and acquires meaning from its position in that mosaic.

This portrait of the author's interests and efforts, however, is usually unavailable in the pages of a single issue. The biographical paragraph that accompanies each article offers only the briefest of glimpses. And citations and discussions in the article of the author's pertinent published studies are distributed among citations and discussions of studies by other scholars, thus offering a disjointed depiction of the author's research profile. I think we would more thoroughly appreciate the merits of a given article if we could know more about the bigger research profile to which it contributes and point the spotlight forward as well as backward at the author's related projects.

In this issue of the journal, I thus invited the authors to answer three questions:

- How does this research project fit in the totality of your professional profile or research agenda?
- What projects (in research, teaching, or practice) came before it and brought you to it?
- Where will you go with your research from here?

In "A Values-Driven Approach to Technical Communication," Josephine Walwema studies the communication practices of GiveDirectly (GD), a nonprofit organization that uses digital technologies and its uniquely innovative networked infrastructure to facilitate direct giving from donors to recipients, thus revolutionizing and revitalizing humanitarian aid. Josephine focuses on the organization's six core values as identified and explained on the GD website (i.e., honesty, ambitious goals, quick and decisive actions, problem resolution, celebrate and reward, evaluate ideas based on their merit), and she analyzes the exercise of these values as displayed in GD's unconventional day-to-day operations. Josephine's case study unveils the important contribution of technical communicators to the clear articulation of the organization's values and how this clear articulation serves to drive and reinforce

the vital mission and ongoing creativity of the organization.

She explains how this project fits in the research profile she is building:

This article is a first in my pivot to understanding technical communication in the Global South (GS) and in people's everyday lives. It is a marked shift from my previous work on information design and intercultural communication in that it specifically examines the enactors of technical communication and the impact of technical communication on real people.

I struggled with this article to figure out what angle to take, and I consulted widely in my attempt to develop an applicable approach to study this organization and its website. That consultation led me to focus on values and how they motivated this particular case of technical communication. I hope to research ways in which values and technical communication intersect, of course, connecting to and building on the work of many others.

I am working on another avenue to build on this project for an edited collection on international professional communication and design. I am excited to revisit the work of Give Directly to see what, if any, lessons have been learned since this particular approach to humanitarian aid was first launched. I also just co-edited a special issue of a journal on user-generated content and its effect on the profession, and I have several manuscripts under review that also consider how technical communication enables interactions among people and institutions. Examining technical communication and how it relates to individuals in the practice of their everyday lives still drives my research.

In “Fertile Grounds: What Interviews of Working Professionals Can Tell Us about Perceptions of Technical Communication and the Viability of Technical Communication as a Field,” Jeremy Rosselot-Merritt reports on a series of conversations with individuals working inside and outside the field of technical communication regarding their sense of the reputation of the profession. Jeremy’s findings indicate that perceptions of the field by those outside it create challenges for those inside it: That is, outsider perceptions of the field are positive but impoverished, with a limited appreciation of the skills and abilities of technical communicators, inadequate recognition of their contribution

to the success of organizations, and little inclination to hire technical communicators specifically to address communication duties. In addition to doing their jobs, according to this study, technical communicators must continuously affirm—by word and action—the legitimacy of their profession, but meeting this ongoing obligation will require better training in organizational dynamics and more deliberate alignment of academic and industry definitions of the field.

This article intersects with Jeremy’s experience as a technical writer as well as ongoing research about perceptions of the field and the teaching of technical communication. He explains:

I was a practicing technical writer for nearly 15 years, and that experience led me to a strong interest in topics such as professionalization and legitimacy that impact the value and long-term viability of our field. My article fits with this agenda because it looks into perceptions of technical communication and its (perceived) value in a number of workplace settings among people who are not themselves technical writers yet have the ability or potential to influence the work or utilization of technical writers, now or in the future. This research and much of the work I’ve done since has shown me that scholars in the field have a lot of work to do in advancing the conversation about professionalization, professional identity, value, and legitimacy of practice, and I’m

glad to be able to contribute to that conversation.

One of my related interests is to study teaching practices and ways to enhance technical communication pedagogy for the benefit of students—both in the service course and in major and certificate courses. I have another article with Lisa Melonçon and Kirk St.Amant in which the three of us report on an analysis of a five-year corpus of pedagogical research. My *Technical Communication* article, while offering implications for instructors, focuses on the practice-oriented part of the field—specifically on workplace practice and its relationship to practitioner value.

I am also definitely building on this project. In fact, the work in this article represents a pilot study on which I am basing research toward a dissertation. My plan is to contribute to evolving lines of thought on professional identity and legitimacy of technical communication as a field of workplace practice; at the same time, I hope to help place the academic and practical parts of the field into continued conversation with one another.

In “How to Better Prepare Technical Communication Students in an Evolving Field: Perspectives from Academic Program Directors, Practitioners, and Recent Graduates,” Lindsay Moore and Yvonne Earnshaw analyze their interviews with 15

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practitioners, program directors, and new graduates in the field of technical communication—all residing in the United States. The interviews focused on perceptions of the direction of the field and appropriate education and training for it. Lindsay and Yvonne find considerable diversity in definitions of the field and the skills essential to its practice, discovering that academics and practitioners are united in their sense of the field's changing identity but divided in their opinion of necessary topics for classroom training. A disturbing finding is that the new graduates who were interviewed voiced little appreciation for the merits of joining professional organizations, including STC. This study thus identifies important challenges of no little urgency for all parties in the field to address.

According to Lindsay and Yvonne, this research project about changes in the field started several years ago while the two were colleagues at the same institution, teaching upper- and lower-level courses in technical communication, and it constitutes a pivot point in their evolving research profiles:

Though we were both full-time faculty teaching in a department of technical communication, our expertise was in disciplines outside of tech comm (literature and instructional design, respectively). As “outsiders,” we were interested in employing a wide-angle lens to examine the discipline as a whole: opinions from leaders in academic

programs, practitioners who had been in the field for years, and also new graduates.

Lindsay had previously done pedagogical research in how practitioners and academics view grammar error differently and how these differences might impact how we teach grammar in tech comm programs. Yvonne's experience as a tech writer and her expertise in instructional design and user experience prompted us to consider the different roles of practitioners—both well-established practitioners and recent graduates who had just come out of our courses. This previous research and experience along with the changes in our department helped us to think further about how practitioners and academics consider the changing identity of tech comm and how programs like ours were changing.

This article is much more extensive than our previous articles, and the difference is really in the research method. We delved into qualitative research through extensive interviews. We wanted to ensure that we weren't getting just one perspective from students or faculty or practitioners, but the combination of all three that really tells the bigger picture.

We hope to use this interview method in future work to contextualize existing research

about non-tenure line faculty in technical communication. We are also interested in doing more work that looks at the discipline as a whole, specifically how tech comm programs in the U.S. differ from one another in how they incorporate client projects and service-based learning.

In “A Review on Error-Inclusive Approaches to Software Documentation and Training,” Hans van der Meij and Marie-Louise Flacke categorize the existing studies of using error information as error-tolerant (with either just-in-time information for noting and fixing errors or “training wheels” that block certain advanced options), error-induced (with errors recognized as learning opportunities), and error-guided (with explanations of correct and incorrect solutions). Their analysis covers the key principles, design traits, and empirical findings related to the various approaches and advises technical communicators to adopt error-inclusive training because it cultivates superior knowledge, attitude, and skills for identifying, managing, and correcting errors.

Hans and Marie-Louise explain the relationship of this project to their earlier and forthcoming research:

We are advocates of a minimalist approach to documentation and training, and a cornerstone of minimalism is the advice to support error handling. Practice has been slow on the uptake, however, as two consecutive

inventories of existing documentation revealed (Van der Meij, 1996; Van der Meij, Karreman, & Steehouder, 2009).

We have conducted empirical research that contrasts documentation with and without error information and found substantial evidence in favor of the error-inclusive minimalist design approach (e.g., Lazonder & Van der Meij, 1995). The new article in this issue further elaborates this line of research with a literature review of the main error-inclusive approaches to software documentation and training, and we are currently conducting follow-up research on the error-guided approach. One ongoing experimental study compares correct-only to correct-erroneous video-based instructions. The study investigates how to create effective videos that teach people about error prevention and error-handling.

“Techniques for Introducing Unfamiliar Terms” by David Farkas delivers everything its title promises. David uses linguistic analysis to cover a wide array of techniques and he systematically identifies, classifies, and explains each with vivid examples. He focuses on the typical ingredients of term-first, class-first, and characteristic-first constructions but also examines variations in the exercise of assurance signals (i.e., visual or verbal indicators that a term is unfamiliar and will be defined), especially distinctive

marking (e.g., italics) but also parenthetical and extra-linear displays. This thoroughgoing and meticulous review of defining techniques offers technical communicators important insights with which to build their practice or guide their teaching.

David describes the position of this article in his wider research profile:

During my 40-plus years as a technical communication researcher, my aim has been to investigate important aspects of professional practice so that my work might have broad and perhaps lasting value. I have investigated procedure writing, the design of slideware (PowerPoint, etc.), techniques for summarization, the organization of lengthy documents, and other topics—almost always in the same way.

I start with what looks like a problem (or a possibility for improvement), and I examine an appropriately selected set of sample documents looking for significant text features in the documents and identifying concepts that seem to get at the core of the problem. If there is useful theory, applicable empirical research, or relevant scholarship, I certainly study and apply it, as an academic researcher should. Then I attempt to classify and systematize what I am investigating in order to produce useful insights.

In writing the article on introducing unfamiliar terms, I made good use of a short article by W. Earl Britton that appeared in the predecessor to this journal way back in 1964. Britton did not apply any kind of theory or any identifiable methodology. His ornate, elegant writing style and his use of literary references (Jonathan Swift, Henry Fielding, Mark Twain) are no longer in fashion. But his careful analysis of technical documents yielded some significant insights that remain valid despite the vast changes in text production, reading habits, and methods of inquiry we have seen since his time. Britton demonstrates, I think, that it is possible to contribute to this field by simply focusing intensively on a problem.

I should note that the topic of unfamiliar terminology intrigued me from the very beginning of my career. I published an article on one small aspect of the topic (the use of boldface and italics for unfamiliar terms) in 1981. But my interest continued, and I gradually broadened the scope of my understanding so that I could write this more comprehensive article.

As is evident from looking only at the authors of the five articles in this issue of the journal, the scholars engaged in the research of this field bring a vigorous repertoire of skills and experiences to their every effort. Each new project inherits

Sam Dragga, Editor

the insights of its predecessors and informs the theories, methods, and analyses of its successors. In a series of singular or collaborative studies, each scholar develops a portrait of the researcher that guides, agitates, and inspires a new generation of students to take up the challenge of examining and explicating the teaching and practice of technical communication.

This is how we build a discipline, a history, a profession—article by article but also individual by individual. We appreciate interesting and important articles but we prize the researchers who excite us with their findings and insights. We look for their names in journals and in the programs of conferences. We read their previous and subsequent articles

and books, looking for equally gratifying information.

The names of the scholars in this issue of the journal might be new to you or altogether familiar, but I hope their provocative articles in this issue (and their candid detailing of their research profiles) will encourage you to put their earlier and forthcoming projects on your list of required reading.



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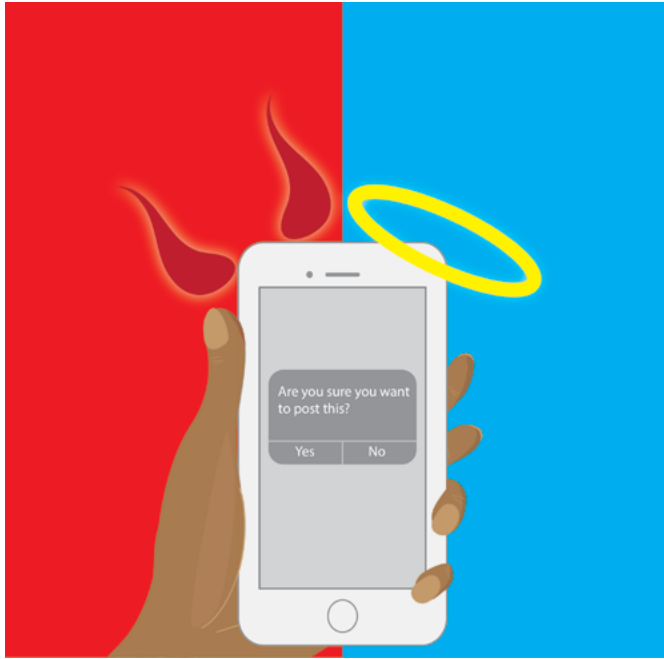
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On the Cover



The topic of ethics is important when talking about how we present ourselves online. For the cover, I used an image of a hand holding a phone with the text “Are you sure you want to post this?” Then below, I placed text buttons saying “yes” and “no”. The important part about this prompt is that we always have a choice about what we do or say on social media. We can choose to have proper etiquette and treat others respectfully or choose to do the exact opposite. I split the background down the middle in red and blue, which are colors that represent good and bad. The angel halo and devil horns emphasize the idea that we can choose to present ourselves online in a relatively good or bad manner.

About the Artist

As an undergraduate student in the College of Humanities and Social Sciences at Kennesaw State University, **Erinn Mckine** is studying Interactive Design. This Bachelor of Science degree includes the development of technical, theoretical, and problem-solving skills needed to become a user interface designer. Erinn is passionate about creating designs with meaning that are able to impact people across all generations. She is available at emckine@students.kennesaw.edu.

Honorable Mention



This illustration is a visual representation of the ethics of social media. I used the thumbs up icon to represent right and wrong and also to act as a reference to one of the most well-known icons in social media, the “like button.” As social media evolves and changes so do the ethics and the responsibility of the companies to know the boundaries of their product and the impact that their product can cause on society. Currently we are seeing companies push limits and walk the fine line on ethics in an effort to maximize profits and monetize as much of their platforms as possible. This illustration shows that battle of right and wrong in a unique isometric design.

About the Artist

Parker Bomar is from Atlanta, GA. He recently graduated from Kennesaw State University with a B. A. in Interactive Design and a minor in Technical Communications. Parker is currently employed at a tech startup focusing on software development in the healthcare industry. He is available at parker@pbomar.com.

A Values-Driven Approach to Technical Communication

By Josephine Walwema

Abstract

Purpose: This paper examines the values and expertise associated with a kind of technical and professional communication (TPC) that connects an organization with individuals in the practice of their everyday lives. It is an attempt to engage institutional forms of workplace communication embodied in the values of *GiveDirectly* (GD) and associated with an emerging model of humanitarian aid.

Method: This study analyzed the content of GD's website, specifically, its articulated values and how they fit into organizational knowledge and workplace writing. This analysis illuminates the type of communication and informs the nature of expertise made possible by a values approach to technical communication.

Results: TPC can add value to humanitarian organizations by articulating the relationship among technology, the interface, and real (not imagined) user needs in their cultural contexts.

Conclusion: Articulating values can mobilize the technical expertise necessary to revitalize humanitarian aid by placing human beings directly at the center of giving and receiving, thus demonstrating that what people in the Global South, often ranked low on the Human Development Index, need is a values-oriented approach to TPC.

Keywords: Global South, giving directly, humanitarian aid, mobile money, organizational communication

Practitioner's Takeaway

- Technical communicators should develop global competencies grounded in empathy and concern for people's wellbeing, as it drives expertise and advances localized solutions based on immediate and contingent needs.
- Strategic orientation and social mediation skills are capable of revolutionizing humanitarian aid.
- Direct giving without conditions, once a radical idea, is surprisingly effective for the flexible spending power it accords recipients, improving people's quality of life, boosting incomes, and promoting development.
- Organizations should continuously evaluate and develop a feedback loop that informs the organization's actions in real time (or something close to it), as this gives it an opportunity to discard what is not working and to push toward better outcomes.

A Values-Driven Approach to Technical Communication

INTRODUCTION

A 2013 broadcast on *This American Life* featured an upstart organization known as GiveDirectly (*GD*) that was experimenting with giving unconditional cash transfers to poor people in western Kenya. That organization's philosophy and mission piqued my curiosity for several reasons. First, aid agencies are not in the habit of giving out cash. Second, unconditional cash in foreign aid is almost never heard of. Third, *GD*'s use of mobile money, which puts money directly into the hands of people, meant that the agency interacted directly with its recipients.

I forgot about *GD* for a while until 2017 when it was once again featured on National Public Radio. *GD* had not been a flash in the pan after all! Instead, it had scaled its operations from Kenya to Uganda. I began to consider that perhaps this model was a promising approach to aiding the world's poor because it centered individuals rather than the charity. It gave aid recipients a voice and trusted them to make decisions that they deemed best for their households. As a technical and professional communication scholar, I had several questions: Why would *GD* flout the "give a man a fish" adage that drives most foreign aid, whose purpose is, presumably, to teach individuals sustainable lifelong habits? How did giving money directly work? What tools, techniques, and communication networks capacitate *GD*, given the numerous logistics necessary to identify and connect with households? Eventually, I settled on values. Could it be that *GD* was doing what it was because it was driven by a set of values? If so, what were those values? What would a values-driven approach to technical and professional communication (TPC) look like?

I seized the opportunity to study how TPC works in a non-Western context both as a means to broaden the field's research horizon, because the world has become a globalized society, and as a way to learn how technology is used in international and cross-cultural contexts. My efforts were aided in part by the 2016 Association of Teachers of Technical Writing conference, which articulated the need for technical communication to investigate issues in the spaces within which TPC is practiced. *GD* seemed different from the "formalized workplaces" (Walton, 2015, p. 159), the traditional domain of TPC, and thus suitable for this shift.

This study examines *GD*, a nonprofit that provides unconditional cash transfers to the extremely poor in Kenya and Uganda. The study is situated within humanitarian organizations whose work traverses organizational values, cross-cultural concerns, and humanitarian culture (Walton, Mays, & Haselkorn, 2016) to examine the values and expertise associated with a kind of TPC that connects an organization with individuals in the practice of their everyday lives. It attempts to engage institutional forms of workplace communication embodied in *GD*'s values and associated with an emerging model of humanitarian aid. Such a relationship is predicated on the articulated values of the organization and its perception of its stakeholders, in this case, donors and recipients. Ideally, an organization's core values explicitly define goals and align performance with outcomes. *GD* has eschewed conventional ways of charity and related communication genres in favor of an innovative start-up infrastructure aligned with evolving advances in digital technology and implemented in a bricolage-like manner: viz., "the practice of putting things together that were not strategically intended to go together" (Kimball, 2017, p. 3). In the process, *GD* has given rise to a communicative genre that is neither internationalization nor localization, but that considers "the differing values of divergent international cultures" (Aguad & Voss, 2016, p. 92) in the formulation of its model. *GD*'s departure from the norm, particularly giving unconditional cash directly to aid recipients raises the question: How does *GD*'s articulation of its organizational values correspond to its day-to-day operations?

Since its founding in 2010, *GD* has operated primarily in the East African nations of Kenya and Uganda (now scaling to Rwanda, Malawi), nations where "colonial emancipations are taking place and where new horizons of life are emerging" (Levander & Mignolo, 2011, p. 5). These countries are characterized as the Global South (GS). Together with its counterpart, the Global North (GN), both concepts connote meanings ranging from geographic to economic by replacing descriptors such as "first world, developing world" when discussing socio-economic differences between countries that have more wealth and global influence than others. The terms GS and GN are considered more empowering and upwardly mobile in implication (Hollington, Salverda, Schwarz,

& Tappe, 2015, par. 6; Longo, 2014). These terms are not geographically absolute because some countries in the GS are more highly developed and wealthy than others in the GN.

This study adopts Levander and Mignolo's (2011) "nutshell" definition of the GS as "the place of struggles between modernity and modernization ... the logic of coloniality and domination ... the struggle for independent thought and decolonial freedom" (p. 4), which is in keeping with the locale and populace of this study. Similarly, writing for the *United Nations Development Program's* 2013 development report on the GS, Kaul (2013) lists indicators of difficult living conditions such as food, housing, and land in "southern countries, especially the least developed" as being part of the Global South (p. 8).

It is in this locale that *GD* has chosen to experiment with unconditional cash transfers to poor households by coopting a mobile phone technology, commonly referred to as "mobile money" (Goldstein, 2013) to make cash transfers sizeable enough to cover a household's annual operating budget. These transfers are meant to allow households to make purchasing and investment decisions that they deem sustainable (Cash Transfers). Through this model, *GD* articulates, enacts, and creates value for its donors and recipients. Moreover, *GD's* commitment to transparency means it publicly shares how much of its budget goes directly to the poor and how much is spent on overhead (What do you get for your dollar?).

This study employs a content analysis of *GD's* stated values so as to demonstrate how this form of TPC aligns with those values. It examines *GD's* crucial stakeholders, the beneficiaries, and donors. It looks into organizational communication and genre ecologies (Spinuzzi & Zachary, 2000) in an attempt to understand the texts, technology, and other infrastructure that constitute the communicative genres of *GD*. What emerges is a value system and a kind of expertise that offers a specific understanding to an emerging form of workplace writing. Ultimately, the study aims to show that *GD* is a study in a values-driven approach to technical communication.

BACKGROUND TO THE STUDY

Most of the world's poor are defined by key indicators of poverty, which include lack of food, shelter, medical

care, education, and gainful employment (World Bank Data on Poverty and Inequality, 2016). These are well-defined yet solvable problems—i.e., "tame problems" (Conklin, 2005, pp. 9–10). And yet, aid agencies (humanitarian and developmental) have responded to these problems by confining themselves to treating the symptoms rather than driving to the root causes of poverty—they simply distribute goods and services to the poor leaving the recipients of the aid out of the decision on which goods and services are most vital to them. Since these products and services can be directly purchased by beneficiaries, there is no specific need for aid agencies to deliver them, nor is there value added in doing so. Still, most charities have been reluctant to give money directly to needy people. Martens (2005) attributes this reluctance to their need to "mediate between the diverging preferences of donors and recipients" (p. 655). He offers that if donors' true objective was to reduce poverty, there would be just one aid agency. This aid agency would simply "transfer financial resources to recipients" or donate "goods, services, and know-how" (p. 660) and leave it up to recipients to decide what they need most and then make the necessary purchases in the competitive open market. That seems to be the lesson *GD* has drawn from observing aid agencies.

GD's program is founded on the idea that, given the financial means, the poor can improve their welfare. *GD* came into being by resisting the generic aid model which has failed to live up to the ideal of eliminating poverty, partly because, in that model, aid is always conditional. Such conditional aid, as Riddell (2014) writes, is dependent on "donor's political interests to influence the decisions of who to give aid to, the amount given and the broad form in which it is given" (p. 27). In this conditional model, aid can be withheld, stopped, or cancelled when donors deem conditions unmet or not adhered to (see Dijkstra, 2002; Swedlund, 2017). Opposition to conditionality gave rise to a "new conditionality" (Dornan, 2017).

Not only has conditionality not reduced poverty rates, it can also be considered a form of hegemony because it imposes rules and conditions that reflect donor priorities with little regard for the recipients' culture and values. Conditionality demands outcomes that may not be commensurate with the immediate needs of recipients. And it undermines recipients' sense of agency and renders them bystanders in

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determining their own economic wellbeing (for more on conditionality, see Crawford, 2007 and Petroia, 2016 on aid in Moldova). But as Drydyk (2013) has argued, the goal of aid should go beyond expanding the agency of the recipient and seek to empower them. For Drydyk, “empowerment can be described metaphorically as becoming better able to shape one’s life for the better” (p. 250), as it develops in individuals the sense of power to act within the context of enmeshed relationships (pp. 254–255).

Another constraint in humanitarian aid is the mismatch between local needs and standard ways of disbursing aid. One factor that might help bridge that gap is knowing the value system of recipients. As Flammia and Voss (2007) have found, working and communicating effectively in foreign cultures requires an awareness and understanding of that culture, which may lead to “respect for local ways of operating” (Walton, Mays, & Haselkorn, 2016, p. 85). That kind of respect manifests in *GD*’s “bottom-up” form of communication in a regional culture where few opportunities for employment exacerbated by the Internal Monetary Fund’s structural adjustment programs have spurred people’s engagement in entrepreneurial activities (Dawa & Namatovu, 2015). These individuals’ embrace of entrepreneurial activities can be read as a manifestation of their culturally shared notion of responding to their environment (Trompenaars & Hampden-Turner, 1998). With no access to the kind of credit made possible by banking institutions, the windfall (cash) afforded by *GD* fits right within that value system. As Trompenaars and Hampden-Turner (1998) observe, “culture is the context in which things happen” (p. 8) and, perhaps, *GD*’s approach is better attuned to the region’s orientation toward certain values.

Being attuned to the people it serves and their needs may factor in *GD*’s communicative genres that do not replicate longstanding aid practices, but that “change[s] the way the world thinks about charitable giving” (para. 2, Effective Altruism, 2018). *GD*’s stated aims are to drive down aggregate poverty levels and pave the way for sustained growth. Rather than impose conditions that may constrain a recipient’s long-term economic prospects, *GD* eases the systemic problems associated with poverty and lack of cash by restoring recipients’ agency in allocating the donated cash as they see fit. This principle is at the core of the charity’s

attempts to create coherence between what the donors and the recipients value and, consequently, what they both aspire to achieve. Given its composition in terms of values, processes, and procedures, and their impact on individuals, *GD*’s actions are a study in the humanistic implications of technical and professional communication (Dragga & Voss, 2003; Dragga & Voss, 2001; Miller, 1979). And in the wake of the global expansion and influence of TPC (Jones, Savage, & Yu, 2014), this work is an opportunity to understand organizations engaged in humanitarian work in the Global South.

The geographically distributed and technologically networked nature of *GD* also positions it as an important object of study. The organization is composed of “strategic assemblages of people and technologies connected, at least temporarily, by common interests and motivations” (Swarts, 2010, para. 3) in the production of technical communication. Consider that *GD* proceeds by creating a community of practice that includes donors and recipients assembled through a support system that includes telecommunications, Internet, technology, finance, and people. This system works together to “jointly mediate” (Spinuzzi & Zachry, 2000, p. 9) the organizational mission and values, and to fulfil a particular and recurring social function (Miller, 1984; Bawarshi, 2003; Devitt, 2004). The activities necessary to achieve *GD*’s mission have, in essence, shaped the organization (Doheny-Farina, 1991).

In the course of mapping out an operational plan, *GD* has legitimized certain kinds of knowledge over others. For example, because it *prioritizes honesty and openness*, *GD* uses objective measures to identify needy households. The supporting ecology of genres deployed through technology is not only ambitious but is critical to the success of its mission. The process is truncated here, but it unfolds in these stages:

- Census data identifies the poorest per capita district in the country
- Satellites capture visuals of housing in the designated poorest village
- Low-income villages from that district are selected
- The cloud stores the visual data collected via satellite
- Mechanical Turk decodes visual data using poverty metrics (housing roofs that “lack luminosity”) to catalogue poor households

Following this initial set-up, *GD* deploys field workers to (selected) poor households using GPS coordinates.

A quick explanation of terms used above: Mechanical Turk is an outsourcing outfit run by Amazon. It typically works this way: organizations post a small, often repetitive task, on MTurk that requires human intelligence. Once posted, online workers (for a small fee) perform this task, which has to be “too difficult or too dependent on human analysis for a computer to do, but too simple for skilled labor” (Hitlin, 2016, para. 18). Luminosity simply refers to the tin (rather than grass) roofs of houses. *GD* takes lack of tin roofs as a signal of a household that may need help (Mullainathan, 2016).

Selection criteria vary by region—but aggregating housing materials and determining how they correlate with the socio-economic status of households is considered an objective and highly predictive indicator of poverty (Haushofer & Shapiro, 2013). The decoded data and GPS help *GD* map villages where there is a concentration of houses that lack luminosity and therefore signify a high level of poverty. Randomly selected households in these villages get visited by *GD* field workers who conduct door-to-door surveys that certify them for poverty indicators. These indicators include “housing materials, assets, vulnerable recipient status” (The Life You Can Save). Potential aid recipients are interviewed and their statements recorded for purposes of documenting their progress through the program. Once they are enrolled into the program, recipients are issued cellphones—the primary means by which the *GD* transacts cash—and registered with mobile money accounts. Registering accounts in the name of the designated head of household is key for *GD*’s accountability because it allows them to monitor the cash transactions at transfer and cashing out. Recipients are also informed that they will be receiving \$1,000 over several months and that they are free to allocate the money however they need to. Reports show that in 2016, *GD* transferred \$30.3 million to recipients (The Life You Can Save).

While the infrastructure has been simplified here for this analysis, it is in fact a complex *network of networks* with continual interaction among the various systems comprising data and metadata, human agents, mobile technology devices, and cash. It involves aggregating census and satellite data to

determine hierarchies of needs. It uses spatial location and visualization tools, all of which result in a digitally created transmedia and participatory culture in which distinctions between user and developer, and between client and company destabilize traditional theories of transactional communication.

The use of mobile money, which “exists at the intersection of finance and telecommunications” “could transform financial inclusion” (Donovan, 2012, pp.61–62) in a region awash with mobile phones but with limited access to banking. However, financial inclusion; because it takes into account banking services including deposits, transfers, savings, and credit, and insurance (Financial Inclusion); is yet to be attained, given that, so far, mobile money is primarily a cash transfer service. Still, *GD*’s capitalizing on this existing network of activities and services is fitting with the ethos of making do with what is at hand and echoes Turner and Reinsch’s (2007, p. 47) notion of “presence allocation,” as it involves choosing among several communication technologies to complete each interaction (Mehlenbacher, 2013, p. 191).

The kinds of global competencies exhibited from the operation of *GD* mark the beginning of another era of TPC. *GD*’s engagement is driven by empathy and concern for the well-being of other human beings. This implies an even more responsive, context awareness for people and their needs, and has led to an agile form of TPC thinking where priorities, definitions of solutions, and results are dependent upon immediate contingent needs. From satellite data processing to household operations in remote villages, these workspaces are established and technologically developed, but they are also “temporally and spatially distributed” (Mehlenbacher, 2013, p. 188). The charity organization continuously coordinates with field workers to keep donor recipients at the helm of the initiative. And on a *GD*Live feed, unfiltered and unedited stories of recipients are broadcast. Such stories include names, amount received, and how the money has been spent.

A World Bank report on poverty shows that poor families consistently lack resources to make needed investments in education, food, and health (The nature and evolution of poverty). *GD* exhibits strategic orientation and social mediation skills designed to yield different results: improved individual and household well-being, increased assets and higher income, improved social relations, enhanced food security

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and overall human empowerment. By identifying impoverished households and transferring money directly to them, *GD* ensures that 91 cents of every donated dollar go to recipients as cash. At the same time, it respects those recipients enough to trust them to freely spend the cash as they wish, which they do. Analysis shows that recipients reliably spend donated cash on a hierarchy of needs—food, housing, health care, education, and business investment. *GD* operates in the kind of environment described by Mehlenbacher (2013) in which “the context demands flexible problem-solving abilities and short-term solutions achieved collaboratively” (p.189).

REVIEW OF LITERATURE: ORGANIZATIONAL KNOWLEDGE AND WORKPLACE TPC

Scholars have held that organizations “present specialized contexts for writing” and research given the rhetorical purposes and contingencies that shape their existence (Harrison, 1987, p. 4). Studying workplace writing away from academic settings according to Doheny-Farina (1986, p. 159) is useful for its ability to (1) provide insight into writing as a social process and (2) inform the teaching of writing. Knowledge emerging from such study, he offers, reveals the “rhetorical demands” faced by new and seasoned TPC writers. Although the complex dynamics of workplace writing indicate a layered approach to “diverse audiences for diverse purposes” (Doheny-Farina, 1986, p. 159), what cannot be revealed is the social environment in which workplace writing takes place. And yet, such writing needs to be understood for what it reveals about the workplace particularly “the interrelationships between organizational processes and composing” (Harrison, 1987, p. 4) and for how it can inform curricula and pedagogical conversations in the academy.

Odell and Goswami (1982) as well as Knoblauch (1990) have shown in their scholarship, that workplace communication reveals socially motivated rhetorical choices: i.e., that the communication (in the workplace) is motivated by the rhetorical situations and by audiences and their needs, as well as by the nature or purpose of that communication. Other findings by Selzer (1983), Odell (1981), and Faigley (1992) speak to the social interactions that characterize these forms of communication where interactions between clients and

users through written and even oral texts help shape the nature of workplace communication. Spilka (2009) examined the role of oral communication, which she characterizes as “written forms resembling speech (e.g., electronic mail, written notes, comments)” (p. 45) and found that such oral forms of communication do influence the composition process of writers. Moreover, Harris and Moran (1993) have shown that knowing the rhetorical motivations behind the communication helps shed light on constraints such as audiences and how best to reach them. The communication focus is on the daily interactions that characterize the nature of work and how workers can meet the established goals. These scholars demonstrate that the workplace does reflect a form of TPC born out of shared practices and the pursuit of common goals.

One of the ways scholars have attempted to understand the functions and characteristics of TPC in the workplace has been to study the communication texts written by and about that workplace. These texts offer contextual insight in the TPC of that workplace (Heath & Luff, 2000; Zachry, 2000; McCarthy, Grabill, Hart-Davidson, & McLeod, 2011). The central goal in studying texts is to determine how they, along with other communication related practices, mediate knowledge, values, and action in a variety of social and professional contexts related to that organization (Rude, 2009, p. 178). It is hoped that a picture of the expertise associated with a particular workplace begins to emerge from studying a workplace in its “naturalistic” settings (Spilka, 2009, p. 45; Raven, 1992). Still, as Harrison (1987) has noted, studying organizational writing is challenging, primarily because it traverses both organizational theory and rhetorical contexts (p. 4).

And yet, Miller (1979) noted that much of what we call TPC occurs “in the context of government and industry” (p. 616) and embodies what she calls a “tacit commitment to bureaucratic hierarchies, corporate capitalism, and high technology” (p. 616). But TPC is also global (Batova, 2013), international (Ding & Savage, 2013), intercultural (Thrush, 1997; Flammia & Voss, 2007), culture-centric (St.Amant, 2002; Walwema, 2016; St.Amant & Flammia, 2017), power inscribed (Agboka, 2013; Jones, 2016), and even technology-centric (Sun, 2012; St.Amant & Sapienza, 2011). As Mara and Hawk (2009) noted, these aspects of TPC do not operate in isolation, but rather involve “complex interplays among human intentions,

organizational discourses, biological trajectories, and technological possibilities” all of which exert agency (p. 3). Thus, considering TPC outside of conventional bureaucratic hierarchies holds promise. Moreover, in this hyper digital era, high technology is not the exclusive purview of big business. Properly deployed, it can also be a valuable tool applied in seemingly unconventional ventures.

While the value of workplace expertise has been juxtaposed against professional communication in the context of government and industry (Petersen, 2014; Walton, 2015) the work of Kimball (2006) and Spinuzzi (2012) has demonstrated the extent to which TPC takes place outside of institutional and corporate spheres. This turn to the extra-institutional threatens to lead to what Walton (2015) has called the “professional’ over ‘workplace” (p. 161) because it disrupts “dominant notions of both” (p. 161). Walton (2015) points to this gap in the corpus of TPC scholarship as potentially problematic and thus worthy of study. And it is one we can no longer afford to ignore, given the increasing location of knowledge work outside of institutions in local and global sites.

Beyond pedagogical and theoretical approaches to TPC, Jones (2016) has raised the “human-focused” approach in which TPC brings about a difference in the everyday lives of individuals. This approach that Jones (2016) labels “Frerican” holds that human experience and labor are praxis and transformative (p. 345). Thus, knowing this aspect of labor allows TPC to investigate how those within our communities inhabit and interact in certain spaces and how TPC can empower them. Jones does not see this trajectory as a recasting of the field; rather, she points to scholarship that has expanded beyond pedagogy and theory to take up issues of power, ideology, and legitimacy in TPC (for a detailed discussion, see Jones, 2016, pp. 345–346). Such work, Jones argues, helps TPC interrogate the effect of its work and practice in communities.

Moreover, the corpus of TPC work revolves around the human experience as evidenced by research in usability and its centering around human action (Sullivan, 1989). That work led to cognate disciplines such as user experience (Howard, 2009), experience architecture (Potts & Salvo, 2017), and usability (Johnson, 1998), all of which sought to adapt technology to the human endeavor. Perhaps recognizing

that TPC cannot always be about pedagogy and theory, Mehlenbacher (2013) recounts the “wicked work” of technical communication wherein there are no easy answers. There are instances where problems are “unstructured, require immediate attention” and do not come with easy solutions (p. 188).

This paper positions *GD* as a study in workplace TPC not steeped in bureaucratic hierarchies or even in capitalistic frameworks but in an informal extra-institutional workplace in the non-profit sector whose technological infrastructure is both contextually and geographically engineered. It is extra-institutional, because the individuals who work for *GD*, including its founders, comprise entrepreneurs, consultants, and field workers who are not fulltime staff. Further, the myriad of support systems (mobile money franchises, phone networks, poverty indicators, etc.) that support the organization can be characterized as bricolage—in that *GD* is making do with what is at hand (Kimball, 2017, pp. 3–4). What *GD* and its stakeholders are doing is adapting institutional strategies (finance, banking, telecommunication, census data, Mechanical Turk, PayPal, Cryptocurrencies, even tax deductions) to extra-institutional work: their collective goal of giving directly.

The study analyzes the organizational meaning inherent in *GD*’s activities to unearth the “cognitive systems constituting the culture” (Harrison, 1987, p. 15) and the social process through which *GD* is constructed. It aims to demonstrate how *GD*’s values are the foundation for its innovative approach to TPC and to show how those values have powered its operations and led to a pragmatic, outcome-oriented approach—much to the benefit of the population it serves.

METHOD

This study is located within the framework of organizational communication and its interrelationship with TPC. The study approach draws from Smagorinsky’s (2008) suggestions for qualitative research reporting by first describing the study design followed by details about the research site, data collection, and analysis procedures. It seeks to answer the question: How does *GD*’s articulation of its organizational values correspond to the day-to-day operations of a values-driven approach to technical and professional communication?

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The Data

This study takes as its data *GD*'s six organizational core values as listed on its website. These values include honesty, ambitious goals, quick and decisive actions, problem resolution, celebrate and reward, and evaluate ideas based on merit. Beneficiaries' profiles and personal statements found on *GDLive* real-time updates, anecdotal evidence, and donor statements on the blog are also examined as data that constitute *GD*'s values and approach to TPC. The analysis focuses on language, key to *GD*'s organizational communication and specific to *GD*'s stated values on its website. The values convey *GD*'s organizational culture where "a set of norms and values are widely shared and strongly held throughout the organization" (O'Reilly & Chatman, 1996, p. 166). These shared set of norms and expectations are manifested in actuating the day-to-day operations of the organization. It is anticipated that they may induce individuals to internalize those norms (Hodgson, 1996). The study was exploratory in its attempt to demonstrate how *GD*'s values drive its innovative approach to TPC and show how those values have led to a shift in this form of humanitarian aid.

Data Collection

Site: *GD*'s website, specifically the section dedicated to the company's values

GD's stated values were examined through retaining key words to describe a single value (e.g., honesty, decisiveness, transparency). Investigating the organizational knowledge of *GD* and how its articulated values correspond to its day-to-day operations was based on *GD*'s promise to "set the benchmark for philanthropic efficiency around the world" (Benchmark Efficiency, 2018, para. 1). This analysis was supplemented by (sample) recipient personal stories, their profile pages, along with donor stories and reports from independent analysts of *GD*, most notably, GiveWell.

Donor stories

This study includes a randomly selected set of donor statements (n=6) analyzed for their explanation of support for *GD*. Evidence from donors was constructed from their self-explanations.

Recipient profiles

The study examined a random selection of recipient profiles, male and female, designated as heads of households for purposes of contact with *GD* (n=35). The profiles and self-narratives represent points in the lives of individuals on the *GD* cash transfer trajectory. They describe participants' hardships, aspirations, cash receipt and expenditure history, and their relationship with *GD*. The profiles are a snapshot that include names (first name only to protect individuals' privacy), answers to *GD* interview questions (see Table 1 under Recipient Profiles below), photos, and cash transfer history. This data is posted on *GDLive* which "participants opt in to" and their stories only published after *GD* secures informed consent (see "How participants opt in to *GDLive*"). Securing informed consent by *GD* of its recipients is premised on the "idea of respect" for recipients whose personal information is securely guarded.

External evaluation of GD

The study also examined external reports evaluating *GD* including GiveWell; Haushofer and Shapiro (2013), who carried out randomized controlled trials (RCT); and *Stanford Social Review*. This analysis begins with an overview of *GD*'s homepage to contextualize the research site.

RESEARCH SITE

GiveDirectly Homepage

GD is a 501(c)3 Non-Profit Privacy Policy organization that is in the business of giving money "directly to people living in extreme poverty" (GiveDirectly). Its mission is to "reshape international giving." The mission, along with *GD*'s major backers, GiveWell and Google.org, and "rigorous evidence" is posted prominently on the homepage banner. The banner also features the image of a youthful person, presumably a beneficiary of the organization, against the background of a lush green forested area characteristic flora of this part of the world (Figure 1).

Below the major banner is a two-column section. The left displays "Real-time, unfiltered updates" along with a brief description of the purpose of that section

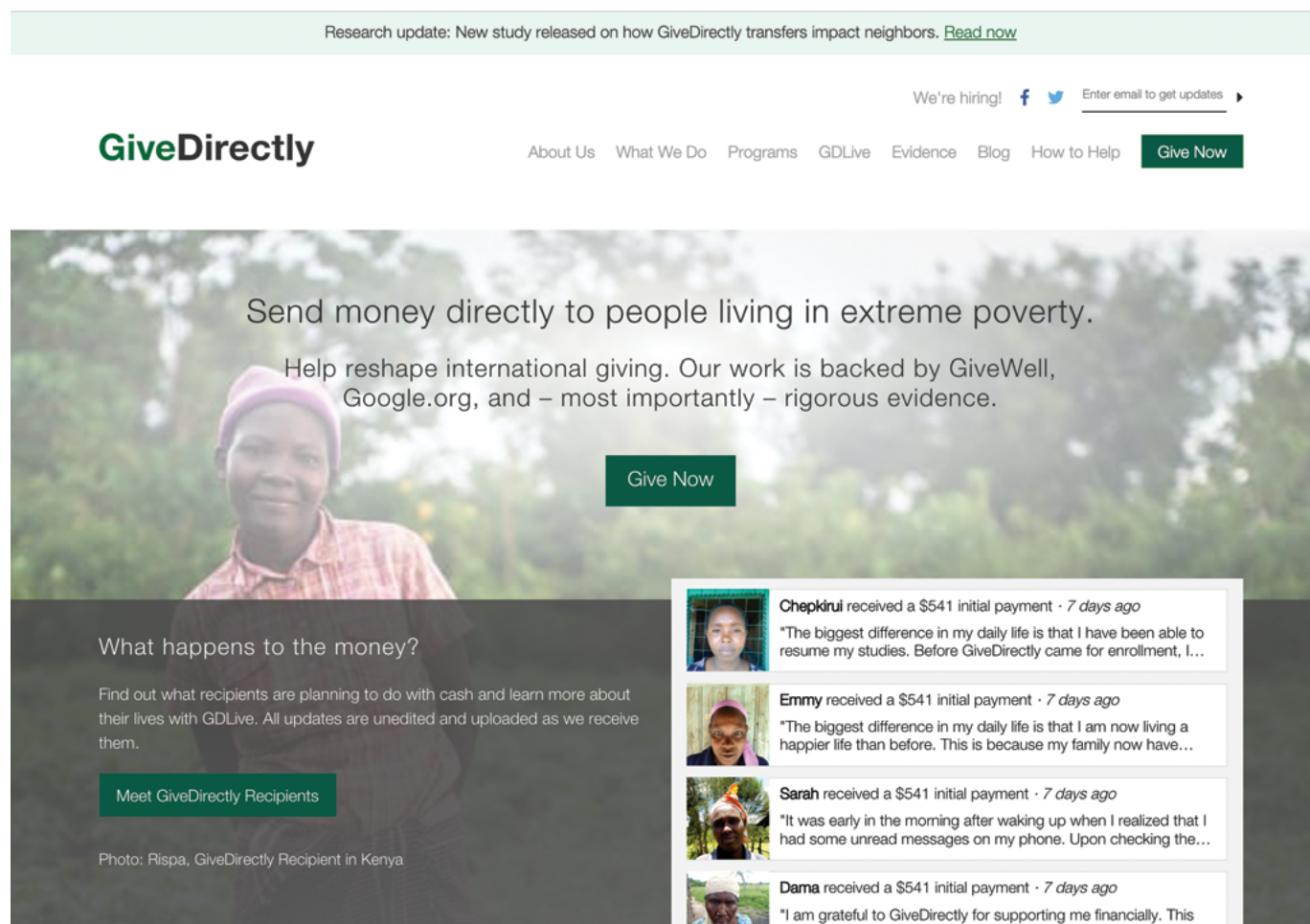


Figure 1. Top half of GiveDirectly home page

and an invitation to “Meet GiveDirectly Recipients.” To the right is a list of recipients in a scrolling column of names, pictures, personal statements, and currency of post. At the time of this analysis, these messages were two days old.

GDLive NewsFeed

This tab is where all recipients’ profiles and stories are recorded and retrieved. Clicking on the picture in the real-time updates list brings you to a detailed recipient profile and a bio of some sort. It includes information specific to that recipient’s relationship with *GD* and is a factual mix of record of enrollment, payments received, time and amount of transfer, and personal disclosure

of aspirations and the nature of cash expenditures. All enrollees profiled do so with informed consent (“How participants opt in to *GDLive*”). Because the profiles meet the characteristics of a *GD* recipient, selecting a handful of these profiles is representative of *GD*’s recipients. Figure 2 is a screenshot of a recipient profile on the live feed.

The second half of the website is sectioned into tabs detailing *GD*’s charity model, which it describes as “innovative.” There are eight tabs, each devoted to a particular function.

Under the tab *Benchmark Efficiency*, *GD* boasts of “setting the benchmark for philanthropic efficiency around the world” by linking to information that

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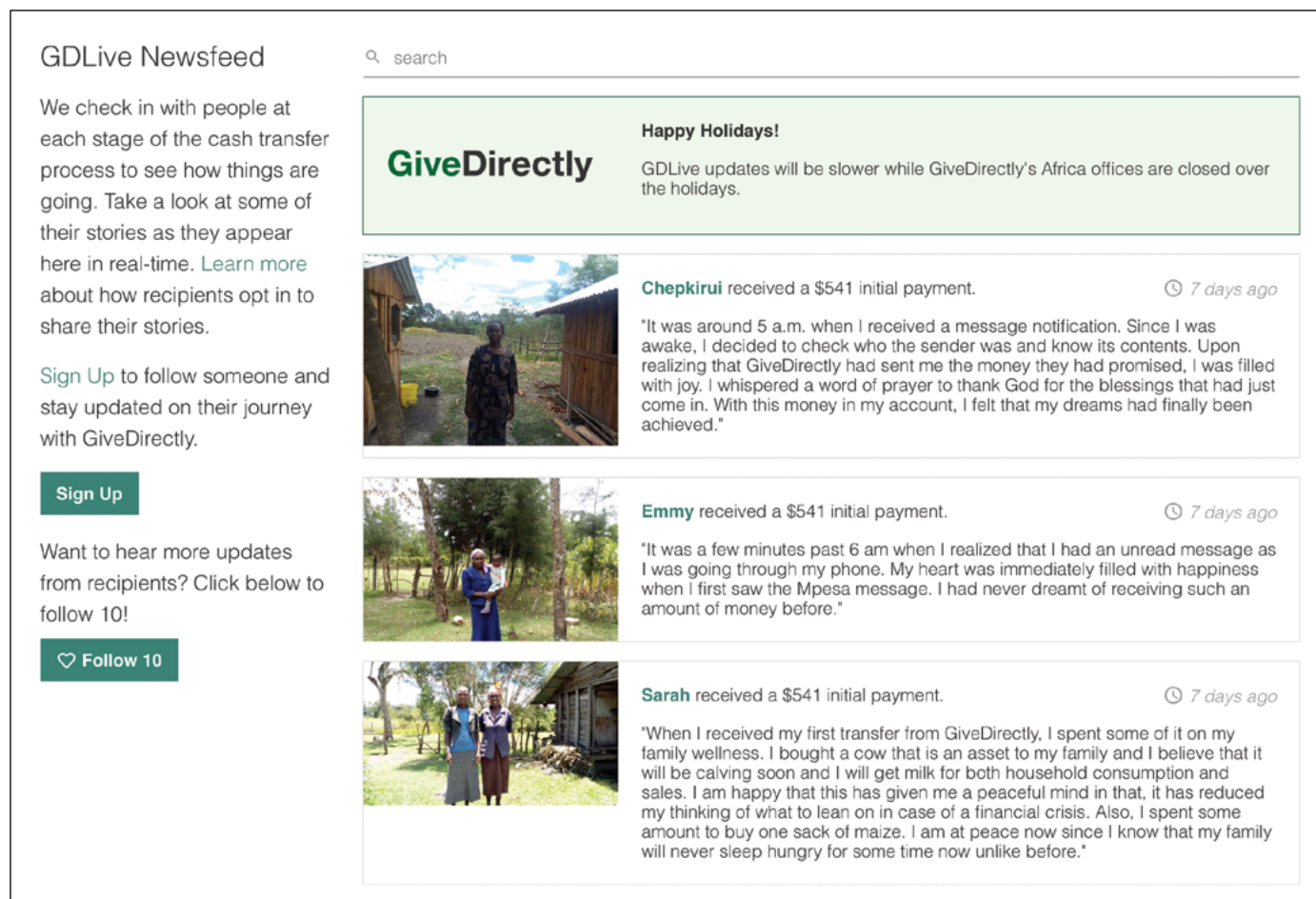


Figure 2. GDLive newsfeed

proves this claim. One of those proofs is factual information related to the cash transfers: \$0.91 of every donated dollar goes to the recipient. The tab *Incredible Support* lists *GD*'s source of donations and links to more information on finances including IRS forms, Annual Report, and Financial Statements from 2010 to 2016 (at the time of this analysis). The tab *Effective Altruism* describes the meticulousness with which *GD* approaches its work including "constant experimentation and analytical rigor to understand the most impactful ways to achieve positive outcomes" (GiveDirectly). The tab *Basic Income Project* is accompanied by a picture of a man tending to some chickens, a description of the philosophy behind basic income, and an appeal for donations. The tab *Evidence of Impact* lists figures and numbers related to the breakdown of the basic \$1,000 earmarked for each recipient and ensuing expenditures broken down in

assets, nutrition, and earnings. The tab *Direct Impact at Scale* charts the growth of the charity since its inception 5 years ago. Finally, the tab *From the Blog* is dedicated to blogging about the charity by donors, researchers, and others. At the bottom of the site are the charity's address (located in New York), along with contact information (email and phone numbers) for *GD*'s operations in all three countries, the US, Kenya, and Uganda.

Recipient Profiles

A typical profile of a *GD* recipient looks much like that of a social media profile page with a picture of the head of household (the contact individual for *GD*) in the foreground and one of the entire family, home, or landscape as a cover photo (Figure 3).

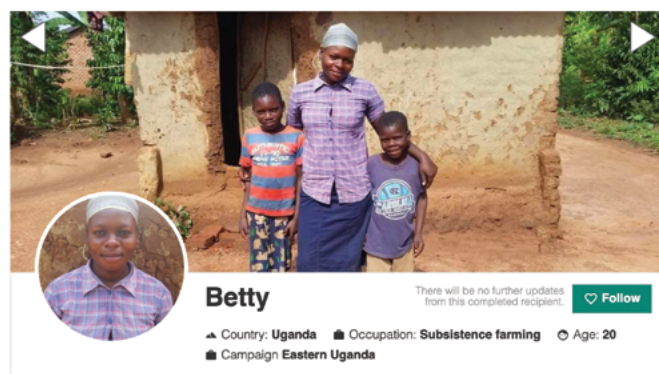


Figure 3. *GD* profile of Betty and family

Table 1. *GD* sample recipient profile standard questions and answers at various levels of enrollment.

Retrieved from GDLive Newsfeed, <https://live.givedirectly.org/>

Standard Questions and Answers	
<p>3rd Payment</p> <p>Transfer Amount 50000 KES (\$490 USD)</p> <p>🕒 1 month ago</p>	<p>✓</p> <p>How is your life different than it would have been if you never received the transfer?</p> <p>Before the transfers, I did not have any stable source of income. I would depend on the casual jobs given to my group. These were jobs like garbage collection and general cleaning. For three years, this has been my main source of income. I felt I should get a more stable and reliable job/business. Since I did not do well in my education, I have never got a good job hence I chose to start a business which I know will sustain my life and needs after am done receiving GD transfers. I used part of my second transfer to start a barbershop business which has really picked up well. As a result of the profits I get on a daily basis, I have been able to handle most of my financial needs in time.</p> <p>f 🐦</p> <p>Do you have any new or additional goals for your life?</p> <p>My new goal, for now, is to start a cybercafe business. This has been my dream and goal for two years now but due to low income, I have never managed to make it a reality. Now that I have assistance from GD, I will be able to achieve the goal.</p> <p>f 🐦</p> <p>What did you spend your most recent transfer(s) on?</p> <p>I spent my transfer on buying a cow. I have always wanted to invest in livestock because I know it requires very little resources to keep. When it reproduces, I will have a number which is a very good sign of wealth. I can be selling some of them when I am in financial need. I used part of the transfer as fare when I travelled home for buying of the cows and also gifted my mother some amount of money. It is a good practise in my a culture that when a son visits his mother, he can't leave her empty-handed. The rest of the money I used to buy food for my family.</p> <p>f 🐦</p>

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Standard Questions and Answers (continued)

2nd Payment

Transfer Amount
36800 KES (\$365 USD)

🕒 9 months ago

\$

How is your life different than it would have been if you never received the transfer?

My life is currently different from how it would have been had I never received the transfer since I have been able to start saving some money to use in starting my business. At first, it was only but a dream but currently, I have a means of starting it. Starting a business will enable me to have enough money to use in meeting my family needs and to invest for my children.

f 🐦

Do you have any new or additional goals for your life?

The new goal for my life that I didn't have before receiving the transfer is to build a house back at home. Since I now believe that I will have started my business by June this year, I can comfortably start planning on how I will build a house for my family. I will be saving my daily income from the business so that I will use it in building a house. Building a house is my second priority because I will not be living in town anymore when I will have reached sixty years.

f 🐦

What did you spend your most recent transfer(s) on?

I am planning to start a cyber business by June this year. With my calculations, I am supposed to have a starting capital of around 150000 KES in order to start this. Since my first and the most recent transfer was not enough to enable me to start this, I decided to save them so that I will later use it to start up this business. I settled on this business because it is what I am currently doing and I know that it is worth investing in it.

f 🐦

Initial Payment

Transfer Amount
20000 KES (\$199 USD)

🕒 11 months ago

\$

Do you have any new goals that you didn't have before receiving the transfer?

My goals are to open up a printing business that I have always wanted. I see this dream soon coming to reality even because of my coming transfers.

f 🐦

Describe the biggest difference in your daily life since you started receiving payments from GiveDirectly.

The biggest difference in my daily life is that I added the transfers to my savings, which brings me close and close to opening my own printing business. I will not have to worry about money to add to my savings to achieve my business goals for a while.

f 🐦

Standard Questions and Answers (continued)

What did you spend your most recent transfer(s) on?

I spent my transfers to purchase shares from a Sacco. I spent 15000 KES of the transfers to save in a Sacco so I could eventually obtain a loan of around 300,000 KES to open up a printing business; this has been my dream for a while. I saved the remaining 5000 KES in my phone for any future emergencies. I have saved up some money in the same Sacco. I have always dreamt of having my own printing business. Currently, I depend on contractual jobs including construction jobs which provide sufficient income to sustain my family, but I have always wanted to be self employed. With the help from Give Directly, I see this dream coming to reality soon.

**Describe the moment when you started receiving transfers. How did you feel?**

It was early in the morning between 8:00 AM and 10:00 AM that I received my transfers. At first when I saw the message, I thought that someone had sent money to my phone mistakenly, as the message does not come in as though it is from Give Directly, it was a normal Mpesa message. Shortly after, a message from Give Directly followed and that is when I knew that it was the transfers coming in. It was a very wonderful feeling and I immediately thought of all needs that required money. I then made some calls to my group members to confirm if they had received their transfers, and they had received theirs also. We met as group members also on that day and we discussed on how we would spend the transfers individually.

**Enrolled**

1 year ago

**What do you plan to do with the cash transfer?**

My plan is to expand my existing business which is a Kinyozi add a salon and Mpesa at the same place so that I can earn more profit. I also want to buy a cow for my mother in rural area so that she gets milk out of the cow and also sell the milk to neighbours. Lastly I want to save money for a printing business.

**Describe your biggest worry.**

My top concern is gun violence because sometimes when I get home late I might meet with criminal and get robbed and even stabbed. Archiving my ambitions worries me a lot because of lack of opportunities and lastly Health crisis because the health system in our country is very bad .

**What are your greatest ambitions?**

My ambitions is to invest in business in the community. Create job opportunities to the member of the community.

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These stories are a representative sample of *GD* recipients, male and female heads of households located in both Kenya and Uganda. As you can see from the time stamps, the interview questions and answers represent the three levels of participation with *GD*: initial enrolment and transfer, second transfer, and third transfer. At the initial stage, recipients express aspirations and recount troubles. Then, once the *GD* cash transfers start coming in, they state accomplishments made possible by the unconditional aid. That shift signals a change for the better. As Yu (2016) has found, interpretive approaches to understanding culture can be found through narratives and the stories that people tell about themselves. If *GD*'s practice of "constant experimentation" (*GD* Values) proves effective, these recipient narratives must find their way into *GD*'s various forums for its outreach.

Humanizing the outreach could be one of the most effective ways to increase donor participation.

Donor Statements

A webpage titled "Why I give directly" is dedicated to donors blogging about their support for *GD*. This page places the work of *GD* within the "broader movement toward cash transfers" (*GD* blog) and donors' quest for successful non-profits through which they can channel their donations. Analyzing donor statements reveals something akin to what Spinuzzi (2003, p. 4) characterized as users rescuing themselves—in this case, by being liberated from a conventional paradigm of conditional aid and being encouraged to act as their own agents. In the ensuing discussions, this paper examines six donor statements such as this one on the donors' blog (Figure 4).

The image shows a screenshot of a blog post on the "Why I give directly" page. The post title is "Coats, Cash, or Aunt Carol?: Priority-setting and the purpose of donations" by Jennifer Rubenstein, dated 2017-12-29. The post content discusses charitable giving and prioritizing donations. The interface includes navigation links like "Blog", "Back to List", and "RSS feed", and a sidebar with a year-based archive.

Year	Count
2019	(12)
2018	(11)
2017	(60)
2016	(69)
2015	(47)
2014	(27)
2013	(13)
2012	(7)
2011	(6)

Figure 4. Excerpt from donors' blog

Evidence from Research

GD carries out randomized control trials (RCTs) to measure the impact of its work, address policy questions, and to refine its process. Additionally, third-party research from GiveWell and scholars such as Hausfer and Shapiro (2013), particularly GiveWell's assessment of the impact of cash transfers on impoverished households has boosted the work of *GD* (see Top Charities, 2017).

ANALYSIS: HOW ARE GD'S ACTIVITIES DRIVEN BY ITS VALUES?

The "Values" page is listed under the "Join Us" page, itself accessible on the "About Us" page. There, on a page by itself, is a list of *GD*'s six core organizational values (Figure 5). This study interprets the values as principles emerging from the content available on *GD*'s website at the time of this analysis.

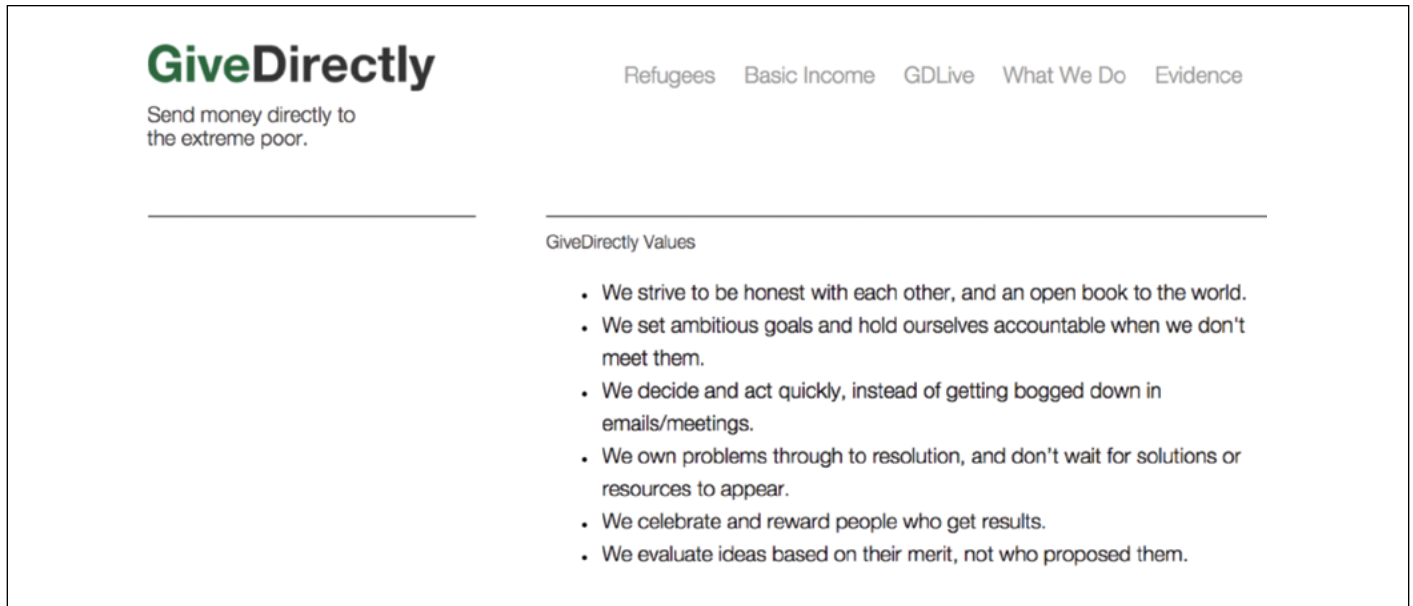


Figure 5. GD values. Retrieved from <https://www.givedirectly.org/give-directly-values>

Given that *GD* is a charity organization, it is tempting to examine it through the relatively stable and easily identifiable features of charity organizations' structure, tone, and style (as they relate to humanitarian concerns meant to elicit an emotional response). But we have already established that *GD* breaks with that conventional tradition. Moreover, articulating the exact genre that characterizes *GD* calls for labeling it not as a discourse community (of charity organizations) but as a "community of practice" (Luzón, 2005). This is because *GD* is indeed a community whose identity is wrapped up within the values that helped establish and now drive and maintain its practice (see Doheny-Farina, 1991).

As a socially constituted entity, *GD* exists as an artifact under which lies a system of genres and subgenres. Swales (1990) might refer to them as "hierarchies, chains, sets, and networks" (pp. 12–25) and as an assemblage of genres (Spinuzzi, 2004). This analysis focuses on the social practices of genre that best characterize the quasi-organizational platform upon which *GD*'s infrastructure is constructed to meet its rhetorical purpose (Yates, 1989). This platform enables donors to give directly to recipients, who, in turn, share how the cash has helped meet their aspirations. As an ongoing self-assessment for all involved, that is itself a statement of value.

The values are assessed in the order in which they are listed.

Honesty

"We strive to be honest with each other, and an open book to the world" ("GiveDirectly Values")

For honesty, *GD* keeps itself accountable, its donors informed, and recipient needs abreast by carrying out and publishing results from rigorous experimental audits. These audits are carried out by third-party researchers to measure the impacts of cash transfers on recipient households by looking at "outcomes including assets, earnings, food security, mental health, and domestic violence, after on average four months" (see Haushofer & Shapiro, 2016, p. 1986). The third-party researchers examine the "macroeconomic and long-term impacts of the transfers on inflation, business activity, job creation, and public finance" (p. 187). Finally, they assess the impact of different cash transfer designs, including giving recipients control over timing and giving them information on the performance of investments made by past recipients (Mani, Mullainathan, Niehaus, & Shah, 2014). This particular focus aims to revise transfer timeliness and frequency of transfers based on past outcomes and recipients' feedback.

This value is borne out by evidence from research about *GD*. GiveWell, a nonprofit dedicated to "finding outstanding giving opportunities and publishing the full details of our analysis to help donors decide where to give" has boosted the work of *GD*, which it lists as its top recommended charity (Our Criteria for top

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Charities, n.d., para. 1). GiveWell's rigorous review process involved:

- Regular (~3-6 times per year) conversations with *GD* staff
- Reviewing documents *GD* sent in response to queries
- Visiting *GD*'s operations in Kenya and Uganda
- Meeting with beneficiaries of *GD*'s work
- Speaking with local *GD* field staff
- Observing a cash out day (a cash out day is when a mobile money agent makes a scheduled visit to a village that has received transfers by phone from *GD*) (Givewell, November 2016).

At Google's annual giving week, *GD* was chosen among many charities as a recipient signaling confidence in its cash transfer operations (GiveDirectly featured in Google San Francisco's Giving Week 2015). Additionally, personal stories from randomly selected recipients on *GD*Live Newsfeed support these claims. And, as Frank (2002) noted, candid first-person stories express "authenticity of self" (p. 101). A random selection of a few stories from the continuous live feed are cited here. They include the first name and age of the recipient.

Joice (55): "I spent most of my last transfer to plaster my house as a memorial of Give Directly in future and also to staying in a nice house. The remaining balance I spent to buy one bag of maize for my consumption."

George (43): "I hope to build a better house, pay school fees, pay my wife's dowry so she can come back to me as she left me because I had not paid her dowry, and to start a small business for my wife." George spent his initial payment of \$99 on food and school supplies, his second payment of \$491 on enlarging his house. And, presumably, he had also paid dowry because in the third year, he is "living peacefully" with his wife. The third payment of \$495 (reported 2 days ago) was spent on house furniture, food, school expenses, and a domestic animal.

Teresa (29) spent the first transfer of \$99 on furniture and food. A year later, having spent her second payment of \$493 on a motorcycle, she describes it as having made the "biggest difference in my life" as a source of income. By the third

payment, she looks like she has some disposable cash because she "can meet part of my family's daily needs" with her husband providing the rest from income generated by the motorcycle.

We see in these stories people recounting past challenges and sharing their ongoing attempts at formulating solutions, local and contingent, to their problems with the aid of *GD*. An element we see here is illuminating the humanity of both the donors and recipients by letting them tell their stories in their own words (Dragga & Voss, 2003). By humanizing the people at the center of aid (giving and receiving) while maintaining technical accuracy, their model ceases to rely entirely on the statistical language with which aid recipients are often discussed (and, in the process, dehumanized).

Ambitious Goals

"We strive to promote a new approach to philanthropy that uses constant experimentation and analytical rigor to understand the most impactful ways to achieve positive outcomes. We hope to set new benchmarks for impact and change the way the world thinks about charitable giving" ("GiveDirectly Values").

This ambitious goal to upend traditional forms of philanthropy by underscoring direct benefits from donor to beneficiary is the *raison d'être* for *GD*. This value can be understood through *GD*'s constitution around social action and purpose. Its inception is in direct response to the exigence of failed models of charity organizations, owing, perhaps, to their own set of values. As a community of practice, *GD* is responsive to its audience's exigencies and sensitive to its constraints. Benckiser Stiftung Zukunft, a German philanthropist, deems *GD*'s ambitious goals credible. Driven by a desire to "improve the future of aid" by funding projects whose effectiveness was proven by "reliable evidence," the philanthropy moved to support *GD* (Shaw, 2015) by giving directly, visiting the *GD* site in Uganda, and commissioning a randomized control trial to gather evidence.

Because *GD* sees itself as responding to humans' needs on the basis of human values, it is worthwhile to consider who *GD* counts as its audience, the givers and beneficiaries, and how its activities correspondingly incorporate particular strategies and approaches geared toward achieving its goals.

To that end, the agency's *GDLive* Newsfeed tallies recipients' stories, which it updates all day, every day complete with pictures, names, and cash received and spent. All personal statements used in this analysis are located at <https://live.givedirectly.org/>. For example, in answer to the question "How is your life different than it would have been if you never received the transfer?" these four recipients state:

Peter (21): "Give Directly has abled me to get a garden that am going to cultivate and bicycle which has eased transportation for myself. This transfer has brought a great difference in my life because I didn't have a place to cultivate a garden and transportation was also costly, I couldn't have got all these items without Give Directly's transfer."

Stella (28): "My life is different with this transfer in that I have been in position to complete my house that had stayed for long without completion because of lack of money. My family income has also been boosted because of this music system and Television that people come to watch and pay money. I am expecting an increase in my harvest this season because of the additional gardens I hired."

Michael (39): "The difference in my life is that I am happy that my children are studying and I can afford food for my life. Had I not received this money I would still be in jail because of numerous debts that I had accumulated."

Christine (38): "My life is different in that I am happier and I own property that I never had in the past. I imagine the hard life I would have had if I had not received the cash transfer, I would not be able to afford food and school fees. Life would have been really miserable."

These texts serve as "electronically mediated discourse" (Berkenkotter, 2001, p. 330). Moreover, as "inscriptions [they] provide a way to fix, record, and dominate phenomena by capturing representations ... within particular activities to meet recurrent needs" (Spinuzzi, 2008, p. 146). In them, we see recipients' agency prioritized and their future economic aspirations clearly delineated. They also serve as measures of recipient satisfaction and, for donors, an honest assessment of the

impact of their cash. It motivates donors by bringing them close to the recipients of their donations. This level of ambition in humanitarian aid is achieved through a robust use of the technology of user feedback to co-construct an authentic audience and create a new form of engagement directly between donors and recipients.

In addition, the *GDLive* Newsfeed generates timestamps documenting the date, time, amounts of donations and expenditures, as well as the identities of the recipients, all of which are important to demonstrate the integrity of the program and earn the trust of the stakeholders. Such information personalizes the charitable donation process by letting donors see the faces of the beneficiaries and witness directly the positive impact the money has had in their lives.

Roseline (30): "My self-esteem has increased since I repaired my house. I will no longer feel ashamed when my relatives visit because my whole life is improved; this the biggest difference in my daily life."

Featuring these stories affirms the lives and worth of these individuals implying that their lives are worth living, itself, a value. This is, of course, a radical departure from the pathos-based pleas for donations associated with giving to the needy who are often portrayed as lacking in their own agency and therefore reliant on potential donors to make decisions regarding what aid to give and under what conditions. For example, meet Emma. He enrolled 6 hours ago (at the time of this analysis).

Emma (26) says, "My biggest hardship is lack of money to construct a permanent iron roofed house. The current grass thatched house that I am using leaks whenever it heavily rains." For Emma, receiving this money means "starting up a happy family. This money will enable me to get dowry for marrying a spouse." At the time he said this, Emma had not yet had any cash transfers. His hope is based entirely on the trust he has established with *GD* to fulfil its promise.

Here is an individual on track to receiving a cash transfer without conditions. Conditionality uses aid as a bait and switch to reward and sanction those on the receiving end leaving them with little ownership (see, e.g., Molenaers, Faust, & Dellepiane, 2015). *GD's* giving model, on the other hand, highlights specific effects of unconditional cash transfers by placing potential donors into positions that encourage them

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to give directly with the understanding that different people have different needs.

Rather than create a relationship with its beneficiaries based on satisfying certain conditions, *GD* aligns with recipients' priorities by interacting with an immediate audience. One reason this strategy is effective is that the audience of the Global South is immediate and present. It cannot be "defined, classified, predicted, and packaged" (Tebeaux, 1991, p. 22) as is often the case in the West. In this sense, *GD* exhibits organizational values that are steeped in culturally appropriate power structures. Moreover, the communication genres it has constituted are a model of cross-cultural communication (Jones, Savage, & Yu, 2014). When field workers speak directly to targeted households, they activate community conversations that allow individuals to voice their aspirations and celebrate their successes. For example, consider 80-year-old Meris, who enrolled 6 months ago. In answer to the question about her biggest hardship, she said, "The biggest challenge I always face is sickening." A widow, Meris is sickly and lacks money to seek medical care. Consequently, the happiest time of her day is waking up "not sick." *GD* has created room for Meris to voice her concerns.

GD emphasizes positive self-interest for givers and beneficiaries alike. It communicates the message that identifying and responding to people's needs is in everyone's interest. Further, it emphasizes how resource sharing goes a long way to alleviate the suffering of others and promotes a common humanity. Consider Mika Marcondes de Freitas, a *GD* donor who has committed to donating "10% of my gross earnings to them, as well as promote them in social media and real life," because *GD* aligns with his vision for "a world where everybody has the autonomy to decide their own fate... giving cash directly to the poor and letting them judge for themselves, within their context, what to do with it to improve their own lives might be a great way to realize that vision" (de Freitas, 2017, para. 3). De Freitas' statement supports the idea that genuine charitable acts benefit not just recipients, but also givers (Park, et al., 2017). And that realization promotes corporate philanthropy, which is how *GD* gets its funding.

Quick and Decisive Actions

GD "values quick and decisive actions over getting bogged down in emails and meetings" ("GiveDirectly

Values"). This value can be observed in *GD*'s articulation of its foremost value of giving directly. The invitation to *Give Now* is prominently displayed on its site. Alongside it is an invitation to *Meet GiveDirectly Recipients* where "real-time, unfiltered updates" from recipients are posted. In openly displaying both its values and its methodology, *GD* demonstrates how maximizing efficiencies can lead to maximum impact from the giver's donation. There are no email exchanges and meetings to share updates of the work accomplished by *GD*; rather, the agenda is articulated openly and its results broadcast directly.

Zev Minsky-Primus (13) became a donor because *GD* "argued that poor people know their own needs better than anyone else. That means that someone should be able to satisfy more of their needs if you give them \$1,000 to spend how they choose, than they would if you bought them something (like livestock, a roof, or healthcare) that's worth \$1,000" (2016, para. 2). For example, Benjamin enrolled 5 months ago and got an initial cash transfer of \$470. Benjamin's biggest hardship was lack of money to "cater for my personal needs like soap, medical care, housing, and clothing." He hopes to construct an "iron roofed house" and "expand agriculture production," both of which he envisions will improve his standard of living. Since receiving the money, Benjamin has "been able to solve many problems" and spend \$300 to purchase his "own plot of land." Zev Minsky-Primus was also moved because "the thing about GiveDirectly, is that they are great at getting data. They are constantly trying to refine their approach with information, and make sure almost all of their data is easily findable by the public" (para. 4). This constant refining is supported by GiveWell's study, whose earlier reservations concerning *GD*'s targeted enrollment criteria and how it impacts villages had been addressed. The 2017 report noted that *GD* was "able to detect and respond to these cases" and has now switched from "targeted enrollment" to enrolling all the households in selected villages (give-directly#Does_it_work).

Similarly persuaded, Williams and Kubzansky (2017) write that *Omidyar Network* invested in *GD* because "their researchers have run randomized controlled trials and published peer-reviewed studies, demonstrating that simply giving people money works" (para. 12). Omidyar envisions that *GD* will "be able to produce insights on how people behave when they have

confidence in long-term, ‘no-strings-attached’ income and they “hope that with this opportunity, they will be empowered to find ways to best improve their own lives and livelihoods” (para. 4).

Of note is *GD*’s prioritizing of communication over maintaining hierarchies, an act that Sproull and Kiesler (1991) found effective in creating social presence which aids in conveying and maintaining organizational identity (p. 252). Emerging knowledge is prized for the interaction it facilitates among stakeholders. Analyzing *GD*’s use of modern technological tools and communication sheds light on prioritizing a people-centered communication. Take the tool *Give Now*, which emphasizes the similarities among the values of the agency, potential donors, and potential beneficiaries by stating its mission: “Send money directly to people living in extreme poverty. We aim to reshape international giving. We’re backed by GiveWell, Google, and, most importantly, rigorous evidence” that the money is being spent wisely (Give Now, n.d., para. 1). This act of transparency manifests *GD*’s values and its ongoing and continuous interaction not just with its donors but with its recipients as well, particularly given the method by which the stories are collected. As indicated earlier, stories are collected by field officers upon recipients’ enrollment, receipt of cash transfers, and cash expenditures. These (recorded) stories are published (with informed consent) unedited on *GDLive Newsfeed* to let the *GD* community see first-hand how their giving is helping to alleviate extreme poverty. The live feed adds immediacy via real-time updates.

Further, the website features key elements that allows donors to give directly, keeps site visitors apprised on the latest events within the organization, describes the mission, and invites participation. GiveWell found “GiveDirectly to be an exceptionally strong and effective organization” (“GiveDirectly,” 2017, para. 4) that performs highly in terms of self-evaluation, track record, communication, and transparency.

Problem Resolution

Technical and professional communication “encompasses a set of activities that people do to discover, shape, and transmit information” (Markel & Selber, 2018, p. 3). With its focus on purpose and audience, *GD* engages activities that revolve around changing attitudes and motivating a donor audience to take direct action for what it considers a worthy cause.

A sample of donor statements attest to this goal of problem resolution.

Jennifer Rubenstein, a donor, supports *GD* because it “best addresses the most severe problem with the fewest negative effects” (Rubenstein, 2017, para. 3). Rubenstein bases her decision on answers to questions such as how does donating to each of these causes function? Whom does it benefit, and how? What values does it enact or promote? What relationships or connections does it strengthen? She considers her donations to *GD* “as coming out of my budget for effectively addressing serious suffering and injustice” (Rubenstein, para. 7). Brittany Erikson of the *Ray and Tye Noorda Foundation* found cash transfers “an intervention that quickly stood out as a great option to not only fulfill our giving requirements, but to do so in a way we felt was responsible, impactful and even inspiring” because they are “the most well-studied ways to help the most vulnerable.” Their own values, “include placing a premium on evidence, efficiency, and respect for participants,” which they saw embodied in the work of *GD* and so earned their donation (Erikson, 2016, para. 4).

And they make it easy for donors, too, using financial insider language on stocks, locking in tax benefits, and advising against other forms of transaction such as “brokerage transfers” as being inefficient. The invitation to donate is based on direct, simple language (Figure 6).

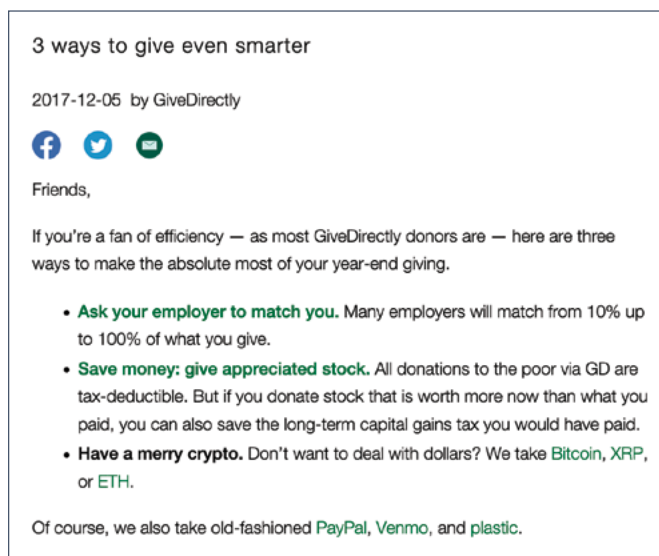


Figure 6. “3 Ways to Give Even Smarter”

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This focus on cash as the benchmark reflects insider knowledge of finance that may serve to boost the confidence of donors.

Celebrate and Reward

A benevolent international development organization, *GD* leverages technology to mass mobilize resources toward a singular cause: improving the life quality of the world's poorest. From credit/debit cards to PayPal, *GD* also solicits cryptocurrencies like Bitcoin and Ethereum to fund its operations. This is a recognition that technology can be used for good.

GD does not operate by executing an existing business model. Instead, it created one by translating its vision and values into a testable model of humanitarian aid which it maintains through audits to keep what works and discard what does not. As a result, it has managed to scale up from Kenya to Uganda and lived up to what Mehlenbacher (2013) described as an environment in which “the context demands flexible problem-solving abilities for collaboratively achieved short-term solutions” (p. 189). Thus, *GD* is in a constant state of reassessment and correction, based directly on observations of the actual environment.

GD's technologies and systems serve as both its vision and its documentation. From *GD*'s vision, “to reshape international giving, making direct transfers to the poor the benchmark against which other, more expensive approaches are evaluated,” to its operating model of “manag[ing] transfers end-to-end using electronic monitoring and payment technology” to its performance evaluation by “delivering a great experience to our recipients” (“GiveDirectly”, n.d., para. 4) are all facets of the operation are strategically bound up in the organization's values. *GD* recognizes the less predictable and less stable market in which it operates requires high innovation. Making use of mobile money infrastructure, for example, has its inherent benefits. For one, the widespread use of mobile money has already altered the landscape of informal trade and people's relationship with their communities, as shown by their use of this new “currency” to transact goods and services. Second, the low transaction costs associated with mobile money directly translate into more money in people's pockets not retained by transaction handlers in the form of fees and deductions.

GD has set up analytics to measure its goals, which are of course driven by its value of eliminating poverty to promote maximum wellbeing in people's lives. Despite its non-profit status, *GD* still invests in creating a quality user experience for recipients by quantifying key indicators and making these transparent both to donors and to the larger public (including potential donors). It presents itself as an open book, ready for inspection. Success for *GD* is measured in benefits to the target populace. Data show that beneficiaries typically prioritize fund allocation to food, education, health, and wealth—in that order (“GiveWell”). Personal statements bore this out:

Alice (54): “I used a portion of the transfer to cement both walls and floor of house. I bought and fixed doors and windows because my former door was just a piece of iron sheet. I also paid my son's high school fees.”

Kipkorir (32): “I am planning to keep poultry so that I can have reliable income which I can spend to buy food for my family. I believe when I have chicken I will have eggs for sale and some as food.”

Dorca (66): “The biggest difference in my daily life is that I have peace in my life cause now that my farm is weeded and my farm is now doing well. I know I will get a good harvest.”

Edwin (30): “The biggest difference in my daily life since I started receiving the money from GiveDirectly in that I'm able to provide for my family without any challenges because I used part of the money to repair the motorcycle which is my major source of income.”

Benson (45): “I currently have no new goal apart from the ones I had earlier. These were get my family a medical coverage. This way we secure our health and expand my farming activities to have food security.”

The authentic nature in which these stories are published tells of individuals who can speak for themselves and who have as much value as those giving of their cash. When we read these stories, we picture

real flesh-and-blood people located in a place and time. We see them navigating the contours of their lives, perhaps a little differently from us, but similarly nonetheless. We get to discover what matters to them and how their lives might be made better. We begin to value them and affirm the choices they are making to meet their specific needs. In short, we relate to them as fellow human beings.

Still, Starr, and Hattendorf (2014) are skeptical of this approach. While they agree that “poor people are poor because they don’t have money” (para. 1), they think “unconditional cash transfers should be judged primarily by how much money recipients are making a few years out from the windfall” (para. 1). Although their research finds evidence that recipients are happier and less stressed, they remain skeptical that *GD*’s model

is both cost-effective and will have lasting benefits in terms of health, education, and income benefits. They also characterize direct cash transfers as “the cheekiness of simply handing out cash” (para. 2).

Starr and Hattendorf’s (2014) findings should be weighed against those reported by the Innovation for Poverty Action (“IPA” n.d.) and that of Haushofer and Shapiro (2016), which looked into the impact of unconditional cash transfers in Kenya and found that *GD*’s cash transfers led to “significant and economically meaningful impacts of cash transfers across the majority of outcomes measured by our indices, including assets, consumption, food security, revenue from self-employment, and psychological wellbeing” (p. 18). Table 2 summarizes the findings of GiveWell into fund allocation by beneficiaries of *GD*.

Table 2. Amount of reported funds spent, by category. Reprinted from GiveWell, GiveDirectly Supplementary Information Partnerships. Retrieved from <https://www.givewell.org/charities>

Category	Amount of funds reported to be spent in category (KES)	% of total funds reported to be spent in category	Amount of funds reported to be spent in category (UGX)	% of total funds reported to be spent in category
Food	8,996,160	5.0%	20,667,800	4.4%
Clothing	1,448,061	0.8%	-	-
Household items	8,590,151	4.8%	56,122,240 ⁷⁷	11.9%
Building	100,863,660	55.9%	194,449,559	41.2%
Land	5,499,000	3.0%	19,603,000	4.1%
Livestock	13,621,595	7.6%	66,344,250	14.0%
Farm business	1,896,405	1.1%	10,536,000	2.2%
Non-farm business	8,007,323	4.4%	8,414,000	1.8%
School	9,664,617	5.4%	49,246,000	10.4%
Medical	1,421,347	0.8%	13,434,010	2.8%
Water	25,800	0.0%	0	0.0%
Debt	837,951	0.5%	6,444,000	1.4%
Savings	8,551,415	4.7%	19,258,500	4.1%
Life Event	5,571,655	3.1%	750,000	0.2%
Family	1,429,030	0.8%	866,000	0.2%
Church	105,450	0.1%	141,000	0.0%
Transport	1,448,285	0.8%	-	-
Alcohol	-	-	5,000	0.0%
Other	2,331,600	1.3%	6,190,000	1.3%
Total	180,309,505	100.0%	472,471,359	100.0%

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Further, independent sources have found that giving directly boosts household incomes, which in turn leads to reduced stress levels as people climb out of poverty. Moreover, putting the donated money to good use not only lifts individual household income, it also builds the country's gross domestic product (*GDP*) as well (Haushofer & Shapiro, 2016).

GD positions itself as a “local” enterprise. However, the better descriptor is that it is a “temporally and spatially distributed” workplace (Mehlenbacher, 2013, p. 188). With its infrastructure and data sources rooted in the nations in which it operates, *GD* is a benevolent, non-profit citizen. As such, its identity is at once local and global: local because its operations are so, but global because it acts as an instrument that harnesses global resources to benefit both donor and recipient. In so doing, the moral imperative it wields speaks well of its donors and of humanity in general. It sheds the remnants of arrogant “noblesse oblige” in favor of an enlightened and egalitarian ethos with an increased sense of perceived fairness. It thus forges a cross-cultural alliance in which foreign intervention and genuine fulfillment of societal humanitarian obligations become one.

Ongoing innovative work at *GD* focuses on meeting evolving user needs as efficiently as possible. *GDLive* broadcasts testimonials of beneficiaries to inspire donations, but the open forum also attests to the value *GD* places in giving voices to all its stakeholders. Such close interaction favors and anticipates positive trends and frames the enabling tactical activities within the overarching strategic goal objectives of the initiative—alleviating severe poverty at its source. These voices can be interpreted alongside the values of the organization, its technologies, and its resources.

Evaluate Ideas Based on Their Merit

GD has taken advantage of an existing industry for the largely “unbanked” population in the region. This industry is built upon “mobile money,” which simply means money that can be accessed and used via mobile phone (Maurer, 2012). First, it is no secret that money occupies a central place in the modern world. As a medium of economic exchange, it is the means by which individuals live. Thus, the social and symbolic significance of having money at one's disposal is at once liberating and enabling. Second, individuals in this part of the world operate primarily in a cash economy with no access to credit in the form of loans, credit

cards, and debit cards, etc. It has been reported that, as of 2014, “66% of sub-Saharan Africans did not have a bank account” (Africa: The Unbanked Continent, 2017, para. 4). As if that were not bad enough, the few banks that exist operate largely in the traditional way they always have, sidelining those who have no bank accounts. This is problematic because most small and medium business entrepreneurs—“90% in Uganda”—fall in this category (Africa: The Unbanked Continent, 2017, para. 5). This category of entrepreneurs has been critical to economic and financial activity in that part of the world. It is therefore noteworthy that *GD* bypassed banking institutions and went directly to the technology that individuals use the most in that part of the world, mobile money. Through mobile money, recipients can register and have their particulars verified by *GD* before the transfers can occur (Hausfer & Shapiro, 2015; FAQ, *GD*). When withdrawing funds, recipients must present ID along with their mobile phone number and a user-specified PIN number to an agent.

Regarding mobile money, *Omidyar Network*, a GiveDirectly donor organization, sees in cash transfers the ability to alleviate poverty and empower people by moving toward a “more inclusive financial system” (Williams & Kubzansky, 2017, 2017, para. 2). Omidyar also sees in cash transfer programs the potential to address “rising income volatility, lack of secure benefits, social instability, and the changing nature of work” (Williams & Kubzansky, 2017, para. 2).

Mobile money has made receiving money in an instant that much easier! A byproduct of mobile phone providers in the region, mobile money allows a customer to use his or her mobile phone to move money directly to another mobile phone user. Notable providers include Safaricom in Kenya, whose system is known as M-Pesa (M: Mobile); *Pesa*, cash (in Swahili); and Mobile Telephone Network (MTN) in Uganda. Once a customer has an account with one of these providers, he or she can transact cash at respective dealers and a “network of retail agents as cash in/cash out points” (Maurer, 2012, p. 589). Mobile money allows individuals to transact everything one would do with a banking service. It uses text messages and Unstructured Supplementary Service Data (USSD), also known as Quick Codes, a protocol used by Global System for Mobile (GSM) cellular telephones to communicate with the mobile network operator's computers without the need for smartphones, which are

still out of reach for a large populace in this part of the world (Donovan, 2012).

The praxis of this infrastructure is that it taps into an existing communications network that already connects millions of customers, more of whom have cellphones than have bank accounts. *GD* recognizes that its recipients operate primarily in a cash economy, which in itself limits their ability to maintain savings, take out loans, and otherwise engage in banking transactions to pursue economic opportunities. Within the *GD* cash-transfer configuration, cellphones function as mobile banks. With them, users can pay cash to service providers in exchange for mobile credit; they can send and receive money; they can pay utilities and make purchases; they can build up savings; and, in short, they can become active participants in the economy in ways they previously could not. Mobile money is a surprisingly effective blend of low tech and high tech that provides low-cost services yet with secure operations that have made remitting cash very feasible (for further discussion on mobile money, see Maurer, 2012; Jenkins, 2008; Hughes & Lonie, 2007). Thus, mobile money facilitates such services as peer-to-peer transfers, which makes it an excellent resource for *GD*'s model.

As Banks (2012) of *National Geographic* writes, the network is composed of small-scale retailers registered as agents, who pay out to and receive cash from customers in exchange for loading virtual credit onto their phone using a system of codes. International development projects such as *GD* represent networked communication at its best. Their open and participatory nature means learning new ways of connecting and collaborating with aid recipients and directly engaging in the practices of their everyday lives. *GD* recognized this promising new approach as a way to tap into rather than invent a new way of doing business. In this configuration, mobile money belongs to that network of communicative genres both "human and nonhuman" through which predictable relations can be facilitated (Spinuzzi, 2008, p. 48).

GD's own self-evaluation record and "strong commitment to rigorous analysis of its work" shows that *GD* "has successfully accomplished its goal of transferring cash to extremely low-income people at a fairly low expense ratio" (GiveDirectly, 2017, para.33). Moreover, because that process has been refined over the years, *GD* has demonstrated "a commitment to continuous improvement" (para. 33). In terms of

communication, a GiveWell study found not only that *GD* is fully transparent in addressing key questions and concerns, but that it "appears to value transparency as much as any organization we've encountered" ("GiveWell," 2017, para. 50).

Haushofer and Shapiro's (2013) research assessed the impact of transfer size on households and found improvements across the board in home improvements, female empowerment, and general wellbeing in the villages where households are located. However, Mogensen (2014) is skeptical about the "size of these benefits" (para. 11) compared to charities that invest directly in health indices like deworming. Mogensen considers deworming a greater payoff than direct cash transfer because a worm-free life bodes better for future productivity than does a short-term infusion of cash. This criticism does not impugn *GD*'s motive; rather, it reflects a simple matter of priorities as to where aid should be given to provide maximum benefit to the recipients. Additional criticism pertains to the size and structure of cash transfer and whether or not they are well-thought out. That remains to be determined, however. It is outside the scope of this study.

Still, the merit of trusting individuals to allocate money according to their needs is borne out in research by Milner, Nielson, and Findley (2016). Their study on foreign aid and government programs in Uganda found that "subjective well-being is now a major element of development policy" (p. 221) and that "human flourishing" is an important component of well-being. These stories from *GD*Live Feed support that notion. In answer to the invitation to *Describe the biggest difference in your daily life since you started receiving payments from GiveDirectly*, these recipients responded as follows:

Dorina (59): "The biggest difference in my daily life is the pride I have found in using fertilizer like my fellow farmers in the village, something that I never expected in life."

Ouma (21): The biggest difference in my daily life since I started receiving this transfer is that my business is doing well due to the value of stock I have now.

Florence (55): "The biggest difference in my daily life since I started receiving this transfer is that

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I have been able to use solar lamp in my house because the accrued debts are paid already.”

Prtronalala (70): “The biggest difference in my daily life is that I have a phone. This I never had before.”

Janeth (25): “The biggest difference in my daily life since I started receiving the transfer is that we have enough and better diet meals in my family. The transfer has given me hope of good things in my family.

Joseph (36): “The biggest difference in my daily life since I started receiving payments is that I am less stressed because I can be able to buy certain items with ease. When I don’t have money, I can easily borrow knowing that I will be able to pay at the end of the month when I receive my transfer.”

Jane (77): “The biggest difference in my life is happiness. I am always happy since I never lack food to eat anymore like I used to before.”

These stories place *GD*’s recipient in the center of aid where donors’ preferences do not override recipients’ priorities. Indeed, donor Beverly Archer writes that while “the notion of giving direct aid has remained elusive, *GD* makes sense because the recipient gets the cash without any controlling, paternalistic strings attached. They get the gift they want. And so, finally, do I” (Archer, 2016, para. 4). Archer’s statement encapsulates the benefits of giving directly that Weidel (2016) has written about.

CONCLUSION

This study examined the organizational values enacted and promoted by *GD* and how they are reflected in its technical and professional communication practices. Rather than take the values at face value, the study analyzed other data to determine the extent to which the six organizational core values drive *GD*’s operations.

To investigate these values, the study began by conceptualizing the problem that *GD* set out to address, which is to eradicate poverty through direct humanitarian aid. According to this study’s reading, *GD* found that conventional methods of giving aid (1) rely on an infrastructure that does not prioritize the

relationship between donors and recipients, (2) focus on alleviating symptoms of poverty rather than attacking root causes, and (3) fail to empower recipients by denying their agency in determining their future. *GD* resolved that conventional humanitarian approaches were inefficient, partly because they are not aligned with the values of donor agencies. *GD* has taken on this issue from conception to resolution by conceiving its operations around its values of giving directly to needy people and trusting them to make choices that meet their present and long-term needs. *GD* has (1) constructed an infrastructure that placed donors and recipients in each other’s field of vision thus eliminating the middleman, overhead, and other bottlenecks and (2) prioritized recipients by giving them cash directly and trusting them to make sound spending decisions.

No comparisons were made between *GD* and similarly structured aid agencies because they were beyond the scope of this exploratory study. However, there was discussion on other aid models that contrasted with *GD*’s approach; that discussion was necessary to gain perspective on *GD*’s departure from the norm.

By and large, this study highlights *GD*’s values as they are constituted and operationalized. Pending further research, criticism of *GD*’s direct cash model as short sighted and lacking in longevity stands. However, *GD*’s focus on objective indicators of poverty and its empowerment of aid recipients by making them unconditional agents in using that aid also stands, based on extensive research over decades. So, too, does *GD*’s focus on continuous process improvement in its operations and delivery of aid. *GD*’s innovative paradigm shift of unconditional aid is a resourceful and promising approach to bringing some good cheer into ordinary people’s lives as their unfiltered stories attest. For *GD*, cash is only a “mediating artifact” (Spinuzzi, 2003, p. 48) in the quest to provide a universal basic income to individuals so they can mitigate against poverty and bring stability where it is lacking in meeting the contingent and local demands of their lives.

Implications For TPC

The salient nature of *GD*’s articulated values on its website is demonstrative of what we know about rhetoric and TPC. When organizational values are adopted as important components in strategic planning, they drive the intent and direction of the organization,

shape its priorities and actions, and drive innovation and creativity. TPC can add value by defining the relationship between technology, the interface, and real user needs. Through its tacit knowledge and technical expertise, a values-driven approach has the potential to revolutionize humanitarian aid by placing humans at the center of aid, demonstrating that what the Global South needs is a socially oriented approach to TPC.

There are lessons embedded in considering TPC at the intersection of power, culture, economics, and political systems (Longo, 2014), and non-governmental entities (Dura et al., 2013). In the field of international humanitarian aid, examining not just the donors who hold the legitimacy and the power but the recipients is an act of restorative balance akin to caregiving (Koerber, 2006). Far from marginalizing recipients (Rose, 2016, pp. 428–430), the ubiquity of digital technologies in people's daily lives opens up access and increases public engagement.

This model invites us to contrast the standard of passive donor funding versus active giving that conveys agency as well as aid. First, it involves the invisible world of mass participation, which de Certeau (1984) argues is always in existence, albeit surreptitiously, in the tactical realm. Second, it uses mass access to cheap and easy technology, like the sim card, to accomplish its task. Mobile money, which has achieved a critical mass in Kenya and Uganda (Muwanguzi & Musambira, 2009), results in a reduction in transaction costs, which in turn translate directly into improved livelihood.

Conceiving communicative genres as an intersection among developmental economists, technical documentation teams and their partners in engineering, support, user experience, marketing, translation, change management, and so on speaks to the changing roles of technical communicators as well as the tools and methodologies that support new ways of working and innovation. This transdisciplinary partnership echoes Spinuzzi and Zachry's (2000) framework of genre ecologies, for it manifests the ways in which expertise is coordinated to achieve organizational goals. This framework offers relative stability because its operations are contingent upon immediate audience needs and the ability of *GD* to satisfy those needs directly and efficiently. In contrast to traditional humanitarian systems' strategy of catering to donor preferences, this people-centered approach signifies a paradigm shift demonstrating a whole new

dimension that enhances, marshals, and interconnects previous methods and frameworks for aiding the needy. *GD* adapts to the people it serves and helps them meet the challenges their environment imposes on them. At the heart of its approach is an art of making do that involves cooperation as much as competition. This close cooperation and trust offers a seat at the table for the non-powerful. *GD* has designed a structure that supports the needs of its stakeholders on both ends of the spectrum (see Rose, 2016).

The activities within this network necessitate ongoing sensitivity to sociotechnical mediation. There are numerous technologies, countless audiences, and a participatory TPC culture reflecting an ecology of genres within a simultaneously international and local operation. There is distributed expertise, which activity theorists call "polycontextuality" Spinuzzi (2008, p. 13), where there are no clear-cut roles of subject matter experts and technical writers so that the nature of knowledge in these emerging TPC situations is variegated.

This analysis depicts how acknowledging the existing cultural differences between the Global South (specifically, Uganda and Kenya) and the West, and how grappling with those differences in less stereotypical, simplistic, and reductionist ways is beneficial. Therefore, it is imperative that we aim to teach those differences without otherizing communities and making them appear less than ideal. Aguad and Voss (2017) have argued that the key to ethical technical communication across cultures is to apply the appropriate cultural "filters" through the lens of objective non-biased value analysis. Increased sensitivity to the importance of considering divergent value systems, in turn, might usher in an era of a healthy response for difference in which global audiences can now cease to be imagined or constructed from heuristics and analyses. Instead, lifting a lid off these audiences and allowing them to define themselves in a co-construction of audience leads to better understanding and a socially oriented approach to TPC.

This model is not internationalization—because that connotes exporting the traditional U.S. foreign-aid model. It is also not localization, because of the process nature of the transaction. Instead, it offers us a glimpse into an increased interdependence and integration of professional communication process across national and global cultures where information is exchanged openly

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and rapidly—in this case, for the enlightened and empowered self-betterment of the most impoverished people in the reaches of the Global South.

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Fertile Grounds: What Interviews of Working Professionals Can Tell Us about Perceptions of Technical Communication and the Viability of Technical Communication as a Field

By Jeremy Rosselot-Merritt

Abstract

Purpose: In this paper, I discuss contemporary perspectives on the professionalization and legitimacy of technical and professional communication (TPC) as a field and describe results of an interview-based pilot study based in modified grounded theory. The purpose is to study perceptions of TPC and communication practice, particularly as those perceptions relate to professionalization and legitimacy of TPC as a field.

Method: The method of data collection is the semi-structured interview. In the study, I interviewed 14 participants in diverse industries about formal communications produced by their organizations, their perceptions of technical communication practice, and the possibility that their organizations will hire a technical communicator in the future. I then used a modified grounded theory approach to data analysis: one cycle of structural coding, a second cycle of pattern coding.

Results: Analysis of data suggests that, despite the importance of communication in organizations, perceptions of TPC as a field are variable and, though participants demonstrate a basic understanding of TPC practice, their perceptions are often incomplete, not reflecting the range of capabilities that TPC professionals often possess.

Conclusions: This pilot study suggests that challenges to the professionalization and legitimacy of TPC continue to exist. Addressing these challenges will require continuing alignment of academic and practical perspectives on the field, as well as continued work to promote TPC's value in a range of workplace settings.

Keywords: professionalization, legitimacy, power, academic, practical

Practitioner's Takeaway:

- Study findings suggest that TPC as a field continues to face challenges to professionalization and legitimacy.
- Perceptions of the field among non-TPC professionals are accurate on a basic level, but not on a level conducive to optimal use of and interaction with TPC professionals.
- There are notable obstacles to expanded use of technical communicators in many workplace settings.
- Technical communicators need more training on organizational dynamics and on how to assert their value in the workplace.
- Continued research on aligning academic and practical perspectives on TPC is needed; to help direct that research, continued, regular dialogue is needed between academic researchers and TPC professionals in industry.

Introduction

As a technical communicator, I have long been interested in what is valued in technical communication practice. This interest followed me from my first position as a technical writer more than 15 years ago to a second position as a communications specialist, then to my master's coursework in technical and scientific communication, and then through two more positions I held with engineering firms before I decided to pursue a PhD in rhetoric and scientific and technical communication.

When I was a fledgling technical writer, I scarcely knew what a technical writer was. Once I became one, most of what I learned about how to be one came from on-the-job training, thanks to my senior colleagues in technical communication. Yet, both colleagues came into the field through non-traditional paths: one was a former advertising professional who became a technical writer decades later, and one was a graphic artist who came upon her new role when she realized her exceptional skills in Quark Xpress were valuable in helping the company manage its large volume of manuals.

We all arrived in technical communication somewhat unintentionally. A knowledge management scholar may say that we were struggling to codify tacit knowledge into an explicit framework (see, for example, Swan, 2007). This struggle took place while we faced regular challenges from management on the need to have three technical writers and from engineering on the idea that our department should stand alone from theirs because we needed that kind of autonomy in order to represent broad interests of cross-departmental stakeholders and external customers.

Over time, a certain theme became consistent in my experience: What we consider "technical communication practice" varies—not only in how it is considered but also in how it is applied in workplace settings. This variability leads to a broad spectrum of perspectives on how technical communication as a field is valued and, therefore, differences in how decision-makers in organizations decide to handle formal communications. Do they hire a technical communicator to manage communication projects? Do they leave it to the existing staff that (currently) does not include a technical communicator? If they do hire a technical communicator, does their existing staff know

what the technical communicator is supposed to be doing—or is capable of doing, for that matter?

To begin addressing these questions, as well as better understanding what is valued in technical communication practice, we have to gain the perspective of working professionals—and not just practicing technical communicators (though we certainly need to talk to them as well). Because of the diversity of locations where technical communication takes place, we need to talk to people in spaces that technical and professional communication (TPC) research does not typically investigate.

Some scholars have taken this approach: for example, interviewing managers to gain insight on perceptions of important skills for practicing technical communicators to have (see Whiteside, 2003); interviewing 11 managers of communication departments to construct a "tapestry of voices," or a "multilogue" as the authors call it (Stevens & Amidon, 2008, p. 12), on the experiences of managers and the factors that influence those experiences within organizations; and studying engineers whose work often intersected with technical communication (see Winsor, 2003; 2004). More recently, Emily January Petersen (2014) studied the professionalization of women working in professional communication roles from their homes, an "extra-institutional" workspace (p. 278), and Jeremy Cushman (2013; 2016) studied the rhetorical work taking place in an automotive repair shop. In his dissertation, Cushman (2013) argued that technical communication researchers should "continue rethinking definitions of the work we value," including work that involves "traditional product-based labor" (p. 144).

In a similar fashion, I take a broad view of where technical communication can occur. As a researcher, I locate technical communication in any setting where technical communication practices are happening or can happen. As I will describe later in this paper, these practices may be performed by a TPC professional or a non-TPC professional (or both). In considering technical communication practice, I turn to the definition of technical writer/communicator offered by Henning & Bemer (2016):

Technical writers, also called technical communicators, produce documents in a variety of media to communicate complex and technical

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information. They employ theories and conventions of communication to develop, gather, and disseminate technical usable information among specific audiences such as customers, designers, and manufacturers. (p. 328)

This definition speaks to the role of technical writer/communicator. I base my approach to defining technical communication practice on Henning and Bemer's definition because it accounts for "practical skills, conceptual skills, and flexibility" (p. 328) needed to address issues of professionalization and legitimacy in the field. Because I argue in this paper that technical communication practice is also taking place in settings where TPC professionals are not actually employed, I make a rhetorical move of applying this definition to settings where TPC professionals are and are not employed, thus emphasizing the practices taking place within organizational settings rather than the titles of the person performing the practices.

With this broad view of TPC practice, I seek to answer two research questions:

1. How do individuals' and organizations' perceptions of technical communication practice contribute to legitimacy and professionalization of the field?
2. How do organizations with and without technical communicators on staff handle formal communication projects?

In this article, I describe results of a pilot study involving interviews of workplace professionals designed to help answer these questions. I seek to bolster our understanding of workplace perceptions of TPC's professionalization and legitimacy, as well as to offer an evolving perspective on the power that technical communication has in articulating meaning within organizations and for various stakeholders. To help position my research, I will first discuss some notable challenges that the field faces.

Professionalization, Legitimacy, And the Academy-Practice Gulf In Technical And Professional Communication

Technical and professional communication is arguably a "young" field. TPC developed from engineering education needs in the nineteenth and twentieth centuries (Connors, 1982) to see its own academic programs in the post-World War II era (Durack, 2003)

with a corresponding growth in job opportunities (Adams, 1993). Today, TPC is a strong, established field with a robust job market and numerous baccalaureate, certificate, and graduate academic programs (see, for example, Meloncon & Henschel, 2013). The U.S. Bureau of Labor Statistics projects that the demand for technical writing will grow 11% between 2016, when 52,400 technical writers were working in industry, and 2026, when 58,100 are projected to be working in the United States. The median annual wage for technical writers was \$70,930 in May 2017 (U.S. Bureau of Labor Statistics, 2017). Technical communicators have adapted their roles to the changing needs of a knowledge economy where technology and creativity are highly valued, and professional programs in the academy are responding. Clearly, all of this is good news.

Yet there are challenges as well. These include struggles with professionalization and legitimacy, a gulf between academic study and industry practice, and (despite the rosy view offered by the Bureau of Labor Statistics) uncertainty about where the field is headed in the future. Practitioners and academics within TPC have striven to professionalize the discipline: consider, for example, the Technical Communication Body of Knowledge (TCBOK), an effort begun in 2007 to help practitioners "train for and practice within the profession" (TCBOK, 2017; see, also, Coppola & Elliott, 2013). Professional certifications offered through the Society for Technical Communication (STC) give practicing technical communicators the ability to document their knowledge and proficiency (Society for Technical Communication, 2018). Yet TPC faces challenges of identity and visibility that continue today. Part of that challenge exists in the workplace in efforts toward professionalization, legitimacy, and recognition of the field; part of the challenge exists in the lack of consistency between academic and practical goals.

In general, professionalization can be thought of as the development of a field's professional status, body of knowledge, and ways of being practiced. Previous scholarship has explored this concept, for example, in terms of three different kinds of professionalization (Carliner, 2012). These include formal professionalism, which assumes a structured level of expertise in which certain practitioners can claim expert status and recognized organizations

help drive an aspiring discipline to a true status as an occupation; quasiprofessionalization, which emphasizes the roles and identities that people develop irrespective of how or whether those people's roles and identities are defined by a formal organization; and contraprofessionalization, which encourages alternative paths to using paid professionals.

Each of the three approaches emphasizes different views of professional organizations, bodies of knowledge, formal education, professional events, and certification. In TPC, for example, formal professionalization calls for the structured efforts of organizations like STC, a defined body of knowledge, organized degree programs in the discipline, educational conferences, and recognized certification programs. A quasiprofessional view reduces the emphasis on formal organizations and degree programs, which it sees as optional, and holds knowledge as organically gained and disciplinary identity as individually defined. Finally, to those who think in contraprofessional terms, a structured body of knowledge is limiting and constraining, as is professional certification; in this view, organizations may have networking benefits but can also constrain professionals, and formal education can be useful but is not a substitute for proficiency. Each of these approaches has value; however, their application in TPC is inconsistent.

In TPC, both practitioners and scholars have noted the importance of professional identity and status. For example, Savage and Sullivan (2001) pointed out a consistent theme in practicing writers' accounts of industry experience: that of "professional status and recognition" for the field (p. xxvi). They wrote: "Beginners are concerned with establishing their own status as professionals, and veterans tell about hard-won battles for professional standards and recognition, fought not simply for their individual careers but for their profession as a whole" (p. xxvi). Rachel Spilka (2002) argued that "to move the field closer to professionalization, technical communicators need to argue a clear vision for the field's future" (p. 12). In addressing TPC's development as a profession, Pringle and Williams (2005) asserted that "[t]echnical communication has quite possibly arrived as a profession" and that "technical communication has quite possibly arrived at a point where we are able to articulate a set of professional attitudes and practices that give us a sense of group identity" (p. 369). In

addition, calling it "zeitgeist in the age of irony," Coppola (2012, p. 5) addressed professionalization through a comprehensive literature review and historical analysis in her introduction to a special issue of *Technical Communication*, citing Evetts's (2011) sociological analysis of professionalism and Hart-Davidson (2001), Salvo (2006, reviewing *Power and Legitimacy in Technical Communication, Volume II*), Spinuzzi (2008), and Swarts (2011) as examples of scholars who have identified TPC's "bypassing" of the "traditional notion of profession to arrive at a completely different view of contemporary professionalization" (p. 1).

In another example, through her thematic analysis of 15 graduate student internship reports, Bloch (2011) asserted that the "professional consciousness" of interns represented in the study sample had "eroded over time," with many interns feeling that their field was marked with low status in organizations; she then called on interns, faculty members, and industry supervisors alike to take steps to help improve the internship experience and the professionalization of the field as a whole. Professionalization is not simply informal or anecdotal; it is subject to analysis and research, a fact that relates to St. Amant and Meloncon's (2016b) call to better align practical concerns and research questions. For the practicing technical communicator, professionalization is of particularly great importance in obtaining and keeping gainful employment, and in constructing *ethos* in their role within an organization. In this way, professionalization is not only a matter of academic inquiry or perceptions within the field of TPC; it is also a matter of what other stakeholders—managers, HR professionals, colleagues, clients, and others—think and "know" about the field.

Closely tied to professional identity is the notion of legitimacy. When one asks if a field is legitimate, the question is about value, permanence, and marketability. For instance, in TPC, the growth of networked communication, the Internet, Web 2.0, and ubiquitous mobile technologies helps create a need for people who can document and describe these technologies in broadly accessible terms (i.e., practicing technical writers) and for people who can research the communicative acts surrounding them (i.e., TPC researchers), enhancing the field's legitimacy.

Notably, Kynell-Hunt and Savage approached this theme with their edited collections *Power and*

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Legitimacy in Technical Communication: The Historical and Contemporary Struggle for Professional Status (2003) and *Power and Legitimacy in Technical Communication: Strategies for Professional Status* (2004). In volume 1, Savage argued for the professionalization of a field that “lacks the status, legitimacy, and power of mature professions” (p. 1) and “goes beyond identifying characteristic skills and knowledge of the field. It also involves prioritizing such competencies” (p. 3). This prioritization derives from a defined a set of professional values and beliefs. Savage also argued that, in order to expand opportunities for technical communicators to flourish, “alternative sites of practice” (p. 4) must be identified. This call relates indirectly with calls to expand sites of technical communication research as well; one example of this call can be found in Cushman’s (2013; 2015; 2016) aforementioned work on rhetorical moves taking place in an automotive repair shop.

A significant challenge to the professionalization and legitimacy of TPC exists in a gulf between academic theory and industry practice. Several examples of this gulf exist. One can be found in differences in disciplinary emphases resulting in part from differences in goals and reward systems in academic and professional spaces (Kynell & Tebeaux, 2009, citing Gambrell, 1998). Another example can be found in tensions between the academic and industry sides of the field. Blakeslee and Spilka (2004) wrote of an historically “strained” relationship between the academy and industry that derives from practitioners’ belief that academic research is irrelevant to the workplace and academics’ belief that workplace practice is lacking in theoretical foundation, too concerned about practical interests, and (among its practitioners) unwelcoming of academic input (see Moore, 2008, pp. 82–83).

These scholars demonstrate the academy-industry gulf as it plays out occupationally and affectively. More recently, in an introduction to a special issue of *Technical Communication*, Michael Albers (2016) stated that “[a]cademics’ research is poorly communicated to practitioners. An unsurprising but disconcerting statement, considering that technical communication is inherently practical” (p. 293). He later wrote, “Simultaneously, there is a gulf of communicating practitioner needs to the academics” (p. 293). Albers found that this gulf existed for years (at least since 1995, he mused). St. Amant and Meloncon (2016b)

also offered a pragmatic view of this research-practice dichotomy in their *Technical Communication* article “Reflections on Research: Examining Practitioner Perspectives on the State of Research in Technical Communication.” They noted that, despite this dichotomy, both practitioners and researchers of TPC have a unifying need for research. Cooperation between practitioners and researchers helps the collective body of knowledge to grow—in meaningful ways—and it enhances the legitimacy of the field.

On the whole, therefore, legitimacy can be thought of as an affirmative value placed on the field internally (by practitioners) and externally (by other professionals). Legitimacy derives from professional identity, which derives in large part from a set of competencies. As Carliner (2012) observed, how those competencies and identities are developed varies among different approaches to professionalization. What I am interested in studying is how technical communication as a profession is perceived both within and outside TPC, how those perceptions relate to its perceived legitimacy, and what implications can be drawn from those learnings.

Method

To more fully investigate perceptions of the professionalization and legitimacy of TPC, I conducted a pilot study in which I interviewed 14 non-TPC and TPC professionals about their perceptions of technical and professional communication. I incorporated a theoretical framework based on power and articulation theory that informed question selection and data analysis. The method is the semi-structured interview; data analysis consisted of a modified grounded theory analysis in two passes—a first-pass structural coding, a second-pass pattern coding. The study and its associated recruitment and consent materials have been approved by the University of Minnesota Institutional Review Board (IRB).

Theoretical Framework: Power and Articulation

In terms of theory, I am bringing to bear an important theme in considering the value of technical communication: power—a term with broad meaning, but one of specific importance in technical communication. In *Power and Legitimacy in Technical Communication*, volume 1, Jennifer Daryl Slack,

Daryl James Miller, and Jeffrey Doak (2003) related communication theory with power. Reviewing three communication models—transmission, translation, and articulation—they first explained the transmission view as simplistic and a view that understands communication as moving from one point to another. In this view, “Power ... must be understood as possessed by the sender and measured by the ability of the message to achieve the desired result in the receiver. To communicate is to exercise power” (p. 175). The translation view of communication complicates the transmission view by adding the receiver, who can reconstruct the meaning in their own way. In an articulation model of communication, the view of communication is complicated even more significantly. The articulation view, concerned with “the struggle to articulate and rearticulate meaning and relations of power” (p. 181), “points to the fact that any identity is culturally agreed on or, more accurately, struggled over in ongoing processes of articulation and rearticulation” (p. 184). In addition, articulation theory compels us to reframe how we think of meaning and power:

The concepts of meaning and power are dramatically refigured in articulation theory. Meanings cannot be entities neatly wrapped up and transmitted from sender to receiver, nor can they be two separate moments (meaning 1 contributed by the sender and meaning 2 contributed by the receiver) abstractly negotiated in some sort of circuit. Like any identity, meaning—both instances and the general conception—can be understood as an articulation that moves through ongoing processes of rearticulation. From sender through channels to receivers, each individual, each technology, each medium *contributes* in the ongoing process of articulating and rearticulating meaning. (Slack, Miller, & Doak, 2003, p. 184)

In Slack, Miller, and Doak’s model of power, imputing authorial power to the technical communicator must extend (but not wholly discard) a transmission view of communication in accurately characterizing the technical communicator’s place in communicative power dynamics. The place of the receiver (translation view) and the movements that take place through articulations and rearticulations in technology and media (articulation view) must also be considered.

These articulations and rearticulations must take into consideration cultural factors that bear upon meaning.

Articulation is also addressed by Henning and Bemer (2016). Balancing legitimacy and power in their argument for greater clarity in the functions of technical writing, Henning and Bemer (2016, p. 314) argued that an “articulation of what technical communicators are grants the field power in presenting a united front in the workplace and in explaining work responsibilities. It legitimizes the profession as a whole by giving technical communicators a way to measure themselves (against the definition) to show others (and themselves) the value of what they are accomplishing.” This is an argument that may seem commonsense at first but resonates well with practicing technical communicators who have struggled to articulate their roles (ideal or actual) despite vocal advocacy for their value. The authors also pointed out the multifaceted definition of power itself: It can refer to ability or capacity, influence, or authority. I consider all three as part of the collective construct of power in combination with the articulation view of communication that Slack, Miller, and Doak described because such a concept of power takes into account both its functional and communicative dimensions.

To better understand the potential power of the technical communicator to engage in this articulation scenario, it is important to understand both the potential value of the technical communicator in different workplace settings and articulations of the value of communication by the people with whom technical communicators will potentially work in such diverse settings. In promoting professionalization, scholars have called for constructing a coherent and consistent body of disciplinary knowledge as well as promoting a consistent identity for the field. St. Amant and Meloncon (2016a), for example, addressed this concept directly when they called for unifying scholars behind common research questions and a shared vision of TPC despite its multidisciplinaryity: “It is a case of unity equals power,” they wrote (p. 268), and later: “commonality brings not only *legitimacy* but also *power*” (p. 268, italics in original) by promoting a shared understanding both within and outside the field. In promoting legitimacy, scholars have called for identifying critical competencies (Carliner, 2001; Hart-Davidson, 2001; Rainey, Turner, & Dayton, 2005; Lanier, 2009)

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and expanding sites of technical communication practice (Savage, 2003; Cushman, 2013).

Competencies, in large part, allow us to take steps in professionalizing our field; with that professionalization comes legitimacy; with legitimacy comes stability, status, and prestige. In a larger sense, legitimacy promotes power, enabling the technical communicator to become an agent in a complex process of articulation and rearticulation—a person who, given a level of professional understanding and respect, has the capacity both to write and to influence important processes within an organization.

Question Design, Data Collection, and Sampling

In this pilot study, my primary method of data collection was the semi-structured interview. Wengraf (2001) described the semi-structured interview as “designed to have a number of interviewer questions prepared in advance” but with such questions being “sufficiently open that the subsequent questions of the interviewer cannot be planned in advance but must be improvised in a careful and theorized way” (p. 5). This type of interview was suitable for this study because it allowed me to frame questions of particular research interest while allowing for the kind of dialogic improvisation that would permit me as an interviewer to ask for elaboration or clarification on points that came up in different discussions.

Aside from demographic questions, most of the questions I asked in each interview (listed in Appendix A) were designed to help address one (or a combination) of four constructs: articulation in organizational communication processes, professionalization of TPC, legitimacy of TPC, and power. The first construct, how articulation takes place in an organization’s communication processes, was addressed in questions 4, 5, and 6, which deal specifically with formal communications produced by an organization for internal and external audiences. Professionalization and legitimacy of TPC were addressed in questions 7, 8, and 9, which are intended to help characterize each participant’s perception of technical communication and their organization’s apparent openness to hiring a technical communicator in the near future. By assessing responses to questions 4 through 9, I can better understand the functional and communicative dimensions of power in the articulation

processes taking place, how a technical communicator does or could fit into those processes, and how perceptions of TPC among working professionals in the study affect the (potential) power that technical communication practice has in those organizations.

As mentioned earlier, I have framed this study as a pilot study, a type that has found considerable relevance in TPC research (see, for example, Gonzales & Zantjer, 2015; Karatsolis et al., 2016; Meloncon, England, & Ilyasova, 2016; Rice-Bailey, 2014; Zhou & Farkas, 2010). As part of their research on the status of contingent faculty in TPC, Meloncon, England, and Ilyasova described the applicability of the pilot study to their work, citing as part of that applicability a piece by van Teijlingen and Hundley (2002) entitled “The Importance of Pilot Studies.” This piece is especially helpful in identifying both the utility of the pilot study and the reasons for conducting one. At least four of those reasons are especially applicable to this study: testing the research instrument (in this case, the set of interview questions being used), establishing whether the sampling frame and technique are effective, identifying potential logistical problems with the research protocol, and collecting preliminary data.

The selection and sampling process involved a combination of convenience sampling and snowball sampling (Koerber & McMichael, 2008, citing MacNealy, 1999). The convenience sample emphasizes the convenience of recruiting certain people or groups of people for research. Snowball sampling emphasizes a preexistent connection between researcher and participants.

Previous research in TPC has successfully incorporated these methods of data collection and sampling. Interviews have been used to help illuminate topics related to technical communication practice and industry issues (see, for example, Amidon & Blythe, 2008; Baehr, 2015; Pringle & Williams, 1995; Virtualuoto, Sannino, & Engeström, 2016; Whiteside, 2003; Wilson & Ford, 2003). In one recent exploratory study by Wall and Spinuzzi (2018), semi-structured interviews of nine people in content marketing roles helped provide preliminary insight into the functions of content marketing, the practices and genres associated with it, and how its practitioners assess the effects and success of their efforts. Within TPC-oriented journals over the last ten years, the use of convenience sampling (see, for example, Kumi et al., 2013; Spinuzzi, 2012;

Yu, 2008; Zhang & Kitalong, 2015) and snowball sampling (see, for example, Petersen, 2014; Walton, 2013; Yu, 2008) can be observed in multiple studies.

In the case of this study, both types of sampling applied because I recruited both people I identified incidentally (through LinkedIn or a “passing by” interaction) as well as people I knew from previous work experiences. This approach allowed me to engage in conversations with people with whom I share a common schema or base of experience while allowing for opportunities to involve participants from unfamiliar or previously unknown sources. As a researcher, I found this allowance beneficial as it led to a more varied dataset—an allowance consistent with the goal of including diverse workplace settings. In the pilot study, I included both TPC professionals and non-TPC professionals (see the section on Participant Characteristics, Backgrounds, Roles, and Organizational Characteristics for more details) because I wanted to see whether different perceptions of the field and of communicative practice would emerge and what considerations I would need to make as the study expands.

Most of my initial contacts with participants came through LinkedIn or email. If participants expressed an interest, I asked them a set of questions to determine the kind of organization for which they worked (for-profit, non-profit, or otherwise), their familiarity with organizational communications, and whether technical writers and related positions were employed in their employing organizations (see Table 1). The position titles used in the lattermost question derived from Baehr, 2015. If a participant answered that their company employed anyone with these titles, or if the participant was actually a technical writer, I generally invited the participant to continue onto the interview stage, noting that perspective relative to the study goals.

Table 1. Positions identified in the initial set of questions

Technical writer	Documentation manager
Information developer	Publications manager
Content developer	Publications specialist
Technical communicator	Information designer
Technical documentation specialist	Technical editor
Technical author	Documentation writer
Communications manager	

Once formal consent was obtained from a participant, I offered the participant the option of being interviewed in person, in a remote synchronous session (such as Skype), or by email. Because many of the participants were located outside of my primary residential area, many of the interviews took place over email, a method which offered the benefit of convenience to the participant but lacked the dialogic back and forth of synchronous methods. Nonetheless, I was able to gather data and when necessary expand on the base conversation using this method.

In the case of email-based interviews, I copied and pasted the data into a document maintained in a secure repository permitted by the University. In the case of remote synchronous or face-to-face interviews, I recorded the audio with the participant's permission, converted the audio to a reliable compressed format, and uploaded the file—along with my handwritten notes—to the same secure repository where any email-based interviews are recorded. Only the study supervisor and I had access to the raw data and any personally identifiable information about participants. All data were de-identified in the analysis process.

Data Analysis and Coding Method

I used modified grounded theory as a basis for establishing a theoretical framing for the study data that I obtained. Charmaz (2006) described the grounded theory approach as “methods consist[ing] of systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories ‘grounded’ in the data themselves” (p. 2). In this way, the data themselves drove the theoretical development; the conduit for that development was a qualitative coding of the data that I conducted after the interviews were completed.

Analysis of data was primarily textual. To facilitate ease of analysis, I copied and pasted responses from interview questions into an Excel spreadsheet. I then analyzed each response in two coding cycles. In the first cycle, structural coding was applied. In *The Coding Manual for Qualitative Researchers*, Johnny Saldaña (2009) defined this type of coding as one that “applies a content-based or conceptual phrase representing a topic of inquiry to a segment of data that relates to a specific research question used to frame the interview” (p. 66). In the second cycle, pattern coding was applied. Saldaña (p. 152) cited Miles and Huberman's (1994, p. 69) definition of pattern codes, which identified

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them as “explanatory or inferential codes [that] identify an emergent theme, configuration, or explanation.” More specifically, in the first pass, I established these categories of responses based on interview questions: *type of company, role, (educational) background, perception, communication types, communication handling, communication effectiveness, and openness to hiring a technical communicator*. After each phrase, I added a colon, followed by a qualitative remark that captured the specific characteristic, feeling, or assessment point that the participant reported. Some phrases tended to be simpler than others. For instance, the *role* was noted exactly as provided by the participant in response to the question about their position; *perception*, on the other hand, was determined through a combination of direct response and interpretation based on responses to one or more questions. If insufficient data were provided to make a reasonable assessment, that category was noted as “Inconclusive.”

In the second cycle, I examined the data at length, looking for repeated themes from the interviews both in the structural analysis from the first cycle (especially from the *perception, communication types, communication handling, and openness to hiring a technical communicator* categories) and in the interviews themselves; eventually, I identified several themes that I expound upon in the Analysis and Discussion section below. This is also the part of the process in which I extracted relevant quotations from the interviews.

Analysis and Discussion

In this section, I will discuss the results of qualitative analysis of interview data as I described in the previous section. Of the 14 interviews, 8 were conducted via email, 5 were conducted in person, and 1 was conducted by phone. Due to geographical distance between many of the participants and me, face-to-face interviews were not always feasible; because of scheduling conflicts, in many cases, email became the most efficient way of gathering responses from many of the participants. This method of data collection seemed to work well for nearly all of the participants who participated in this way. Of the challenges I experienced using email (which will be further discussed in the Observed Limitations section below), none of them prevented participants from asking questions or participating if they desired to do so, and none of

them prevented me from gathering useful data. In some cases, I did follow up with participants via email in order to clarify specific points—an affordance allowed by the semi-structured nature of the interviews. All of the interviews took place between October 2017 and March 2018. The questions asked of each participant were the same; the interview content then evolved from those questions.

Throughout this section, I will denote specific participants with a numerical identifier (1-14), followed by a three-letter designator indicating whether the person is currently a TPC professional (TPC) or a non-TPC professional (NOM). The four TPC professionals include three practicing technical writers (Participants 4, 10, and 12) and the owner of the communications staffing company (Participant 13). The other ten participants are considered non-TPC professionals.

Participant Characteristics, Backgrounds, Roles, and Organizational Characteristics

Participants in the study were from diverse backgrounds. Nine participants were male; five were female. Based on interview results, I determined that eight of the participants held functional, non-management, non-executive roles within their organizations; three worked in management or executive roles, one supervised the activities of students but did not exercise any supervision of her colleagues, and two were owners of a business. 12 worked for organizations based in the American Midwest or with a significant presence in the American Midwest, 1 worked for a company based in the American South, and 1 worked for a company based on the West Coast. All but one worked primarily in offices located in major metropolitan regions (metropolitan statistical areas with populations of 1 million or more).

Of the 14, 3 were full-time technical writers, while 1 had previous technical writing experience although her title and primary job functions were not focused on technical writing. One had been a technical writer previously and now owns a company handling communication placements. Nine of the participants were not technical writers and had no known previous experience in such a role. In terms of educational background, all of the participants had a high school diploma. Ten had at least one bachelor's degree, one had two associate's degrees, and two had some college (no degree completed). Four had at least one graduate

degree. The degrees represented a broad spectrum of programs, including biology (2), civil engineering, liberal arts, professional writing, business, paralegal studies, management information systems, mechanical engineering, network systems administration, English literature, journalism (2), mass communication, music education, and German studies.

In terms of industries represented, 12 of the participants worked for organizations that fit the study definition of for-profit, 1 worked at a non-profit,

and 1 worked for an educational organization. More specifically, the industries represented include the following: IT, Immigrant Rights, Enterprise Finance & HR, Manufacturing Supply, Engineering Services (2), Restaurant Distribution, Project Management, Environmental Management, Industrial Gear and Motor Modules, Public Education, Higher Education Technology, Communications Staffing, and Insurance/IT.

Table 2. Summary of participant backgrounds

Participant Number	Education	Role	Type of Organization	Fiscal Category
1	Bachelor's	Director of Development	Engineering Services	For-profit
2	Bachelor's	Staff Engineer	Engineering Services	For-profit
3	Associate's (2) Bachelor's (2) PhD	Executive Director	Immigrant Rights	Non-profit
4	Bachelor's Master's (2)	Technical Writer	Manufacturing Supply	For-profit
5	Associate's Bachelor's	Marketing Coordinator	Industrial Gear and Motor Modules	For-profit
6	Bachelor's Master's	Senior Product Manager	Enterprise Finance & HR	For-profit
7	Associate's Bachelor's	Owner and Head Technician	IT Services	For-profit
8	High School Diploma Some College	Assistant Manager	Restaurant Distribution	For-profit
9	Associate's (2)	Project Coordinator	Project Management	For-profit
10	Bachelor's Graphic Design Certificate	Technical Writer	Environmental Management	For-profit
11	Bachelor's Master's PhD Coursework	Teacher	Public High School	Educational
12	Bachelor's Master's Coursework	Technical Writer	Higher Education Technology	For-profit
13	Bachelor's	Owner, Recruiter	Communications Staffing	For-profit
14	Some College	Director of Security Project Management	Insurance/ Information Technology	For-profit

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Results of Second-Cycle Coding

As I discussed in Data Analysis and Coding Method, Saldaña (2009) cited Miles and Huberman's definition of pattern coding as that involving "explanatory or inferential codes, ones that identify an emergent theme, configuration, or explanation" (p. 69, cited in Saldaña, 2009, p. 152). Saldaña also pointed out pattern coding's suitability for second-cycle coding with the purpose of "development of major themes from the data" (p. 152). I conducted pattern coding with this purpose in mind, specifically focusing on the *perception, communication types, communication handling, and openness to hiring a technical communicator* categories from structural coding and the interviews themselves. From this process emerged four patterns of interest:

1. The need for diversified skills related to communication within organizations and knowledge of organizations themselves
2. Varying knowledge of what TPC is
3. Commonalities of communication types within organizations
4. Reported effectiveness of communications produced by organizations

Patterns 1, 2, and 3 showed evidence of a pattern, but specific supporting examples varied among participants. Pattern 4 showed responses that were more consistent.

Also of interest in the study findings was an additional observation that came up consistently: that participants reported limited openness to hiring a technical communicator in the foreseeable future. I include this observation as a notable result, first, because it did emerge as a consistent finding and has significant ramifications for the use of a technical communicator in those organizations, and, second, because factors contributing to this finding are worth considering both in the study and as part of a larger discussion about the use and marketability of TPC in the workplace. However, because of the multifactorial nature of this phenomenon and the fact that several externalities may influence it, I did not consider it a "pattern" in the way that I considered the other four patterns and, therefore, have included it in this section as an observation.

Pattern 1: The need for diversified skills related to communication within organizations and knowledge of organizations themselves

The need for skill diversification in technical communication practice is not a new theme, and the importance of communication skills within organizations came to light in all 14 of the interviews. Technical communicators have long been asked to extend their roles beyond writing and editing to address organizational needs in project management, customer service, and other areas (see, for example, Amidon & Blythe, 2008; Coppola & Elliott, 2013; Kampf, 2006; Whiteside, 2003).

Findings from this study reinforce that idea—not simply because participants identify it as important in TPC professionals, but more because they identify it as important for themselves and their colleagues, and because skill diversification is an area where technical communicators tend to thrive. In articulation processes within organizations, skill diversification seems to increase the effectiveness of communications and, perhaps just as important, the functional and communicative power that a person has.

For example, Participant 3 [NON], the nonprofit director, reported that she "[wears] many hats" in her role, with duties including "grant research and writing, corporate and individual fundraising, strategic planning, program design and evaluation, web design and marketing, and hiring employees and attracting volunteers." This "wearing of many hats" affords her the ability both to help articulate meaning in her organization and to occupy a position of power. Participant 14 [NON] reported that management at his company would like the communications specialist in his department to take on diversified roles such as project management; as this happens, the communications specialist will take on expanded roles in multiple articulation scenarios.

As skills go, there is also something to be said about the skill of maintaining cognitive distance from the product or process about which a practicing technical communicator is writing. One of the three practicing technical writers (Participant 4 [TPC]) stated:

It should be noted that I understand very little about the products we make. That is partially because I have no mechanical intelligence, but also because I think it's very important that I

maintain that outsider's ignorance. It prevents me from creating a manual that is littered with jargon and shorthand language that the user may not understand.

Yet, this same person reports how important it is to be able to interface with people who have the information he needs: "Sometimes [correcting errors in manuals] requires chasing down someone who knows the details," he said. "Most people here are good about responding and working with me, but some have to be cornered to get them to pay attention." This observation leads to an evolving thought that, in a practicing technical communicator, organizational knowledge is just as or more important than product knowledge. Participant 12 [TPC] added an element of organizational culture in her interview, pointing out the "informal and relaxed" nature of her workplace and how that culture impacted internal communication processes. In 64% (9/14) of the interviews, knowledge of the organization was expressed as an important concept. In study terms, organizational knowledge became strongly associated with power and articulation.

Pattern 2: Varying knowledge of what technical communication is

Another finding is the varying, inconsistent, and often incomplete knowledge of what technical communication actually is. This would be a relatively manageable problem if the people managing technical communicators were technical communicators themselves, or if the people hiring them had previous ample training and experience working with technical writers. In a number of cases represented here, this is simply not happening. Participants reported the following thoughts on what technical communication actually involves, grouped into categories of TPC professionals and non-TPC professionals.

TPC Professionals' Responses

- "Operator instructions and parts manuals" (Participant 10 [TPC])
- "Content experience ... [although] labels are changing as the scope of work shifts away from a documentation focus toward a client focus" (Participant 12 [TPC])
- "A more current and updated way of stating my background, which is conventional technical

writing ... It's funny how that term *technical writer* will not die [despite changes in the field since the 1970s]." (Participant 13 [TPC])

Non-TPC Professionals' Responses

- "How can I communicate pieces of my business [such as financials] to my audience" (Participant 1 [NON])
- "Someone who writes user guides and repair manuals... . having knowledge in a technical field as well as communication knowledge... . a hybrid who can accurately simplify complicated information to various audiences" (Participant 3 [NON], who has supervised a group of TPC professionals in the past)
- "Communications about the internal working of our products from an engineering perspective" (Participant 5 [NON])
- "development or developer type information, or communication just for the development staff" (Participant 6 [NON])
- "Manuals, technical terminology, resumes" (Participant 7 [NON])
- "Explaining a process ... interpretation of information" (Participant 8 [NON])
- "Someone who is explaining things of a technical nature to folks who aren't technical[ly] minded" (Participant 9 [NON])
- "The specifics of how something is going to happen, how to do a certain task, or how to deal with a certain product" (Participant 11 [NON])
- "A lot about detailed information for technologists, but not for the general business populace." "Architecture documents." "Project requirements." (Participant 14 [NON])

These quotations reflect responses to question 7 in the semi-structured interviews: "When you hear the term 'technical communication,' what comes to mind?" (Note that the full list of questions can be found in Appendix A.) Clearly, much of the understanding within this sample population has to do with manuals, instructions, explanations of technical subject matter—and certainly technical communication is very strongly associated with those concepts. But nowhere do participants discuss "expanded" competencies such as visual design, project management, or knowledge management (one notable exception to this came in one response to the question about openness to hiring a

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technical communicator, where Participant 14 [NON] said that his company would like their communications specialist to take on project management and other roles). In one case, Participant 6 [NON] stated, “I’m not sure what a technical communicator would do, or what that role is responsible for.” Another, Participant 3 [NON], who had managed a team of communication specialists in the past, reported that she is “not familiar with the training of a technical writer” but that she (correctly) “suspect[s] that there is more to a technical writer than meets the eye.”

This pattern has considerable implications for TPC’s professionalization and legitimacy, at least within the study population. Whether the goal is formal professionalization, quasiprofessionalism, or contraprofessionalism (to use Carliner’s terms again), TPC needs a consistent, or “unified” vision, as Henning and Bemer called it, in order to achieve the kind of legitimacy that will make it viable and ensure that it is understood across disciplines. More research is needed to better measure that consistency.

Pattern 3: Common communication types within organizations

The communication type that overwhelmingly emerged through the interview set was that of email. A full 100% (14/14) of participants mentioned it as being important in their organizations, and it was often the very first to be mentioned at all. Most of the time, it was discussed in the context of internal communication. Some participants, such as the high school teacher (Participant 11 [NON]), used it to communicate with external customers (namely, parents); at other organizations, it is often used for the purpose of sending job quotes and proposals, even if the participant is not directly involved in the process. Two of the practicing technical communicators in the study (Participants 4 [TPC] and 10 [TPC]) reported using email extensively; most of their reported interactions were with internal colleagues.

Table 3. Reported use of communication types in organizations

Type of Communication	Frequency of Reported Use in Organizations
Email	100% (14)
Hypertext (including web sites and wikis)	57% (8)
Meetings and/or meeting minutes	57% (8)
Print marketing (including brochures, product information sheets, and so forth)	43% (6)
Proposal (including quotes and bids)	43% (6)
Manual/process documentation	43% (6)
Other software tools not otherwise shown	36% (5)
Social media	36% (5)
Report	21% (3)
Educational documents	14% (2)
Quality management system documentation	14% (2)
Conferencing software (Skype, Slack, etc.)	14% (2)
Communication generated by customer relationship management (CRM) tools	14% (2)
Legal documentation	14% (2)
SMS/text messaging	14% (2)
Newsletter	14% (2)
Invoices and statements	7% (1)

A few points are important to mention here. First, it is likely that not every participant is aware of, or mentioned, every communication type represented in their organization; therefore, these numbers are likely underrepresentative of certain communication types in organizations (it is difficult to imagine, for example, that social media are used by only 36% of the organizations in the study, a fact that likely reflects participants' lack of exposure to that communication type in their organizations). Second, every participant did mention at least one—and, in a vast majority of cases, more than one—communication type that helps define goal-directed actions within each organization. Third, formal communication is taking place within all of the sampled organizations, and it is taking place a lot. Finally, we know that, in the study population, many formal communications are being created without the involvement of TPC professionals, raising the question of whether adding a technical communicator to those processes will result in formal communications that are produced more efficiently or that better address audience needs.

The important takeaway, though, is not simply that certain kinds of formal communications are taking place within the organizations in this study, but that these communications are (in a large number of cases in this particular sample) produced by non-TPC professionals. If this finding holds in a large number of organizations, there is arguably some untapped potential for expanded use of technical communicators (who are often markedly less expensive than subject matter experts, such as engineers, to the organizations that employ them). If the market for technical communicators will grow 11% between 2016 and 2026 as the Bureau of Labor Statistics suggests, how much would that percentage grow if managers, subject matter experts, HR professionals, and others in companies without TPC professionals on staff were more aware of the professional capacities of technical communicators? This is a question that must be considered as we continue to assess efforts toward professionalization and legitimacy of TPC.

Pattern 4: Reported effectiveness of organizational communication processes

Broadly speaking, 9 of the 14 participants (64%) reported their organizations' communication processes to be effective or at least partly effective. There was

some degree of nuance in nearly all responses; for example, Participant 11 [NON] stated the processes were effective “when used correctly.” Another stated that processes were generally effective; however, there were grammatical issues in many of the communications produced. Participant 4 [TPC] felt he did not have a proper frame of reference and was uncertain about the answer.

Three participants provided mixed responses: the engineer (Participant 2 [NON]) and director of security project management (Participant 14 [NON]) felt that their companies' internal processes are at least somewhat ineffective but that external communications with clients are more effective, while the technical writer in higher education technology (Participant 12 [TPC]) reported that “[p]rofessional communication with external stakeholders is not formalized, but is probably more effective than our internal communications.” Finally, two participants reported ineffective communication processes in their organizations. Participant 9 [NON], a manager of project management software in her company, plainly stated:

Formal communications here are not good. We have to draft them if there is any significant unscheduled downtime for any of our clients. We just recently created a process for this but the process has not been working and it doesn't follow what works best for us. We have too many people trying to manage something instead of picking someone to handle it. If we do pick someone to handle it, they aren't around when we need them to communicate. Or they don't listen to everything that happened and communicate the wrong thing.

Participant 1 [NON], the engineering director in the study, acknowledging that “communication is tough,” felt that improvements were needed in invoicing and forecasting, aligning communication objectives with corporate vision, and achieving transparency in both internal and customer communications.

Observation: Limited Openness to Hiring a Technical Communicator in the Foreseeable Future

In determining an organization's “openness” to hiring a technical communicator, I assessed the likelihood that an organization would actually consider hiring

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a technical communicator in the foreseeable future (a somewhat arbitrary term here, but for practical purposes, within six months). If the participant reported that their organization is or will be actively seeking a technical communicator for hire, I assessed the openness to hiring as affirmative. If the participant plainly reported that this was not likely to happen based on their knowledge, I assessed the openness as negative. This openness was not binary in many cases, and there were nuances in the responses.

Based on participants' responses to the last question—"Do you feel management would be open to the idea of hiring a technical communicator?"—most of the organizations where they work did not plan to hire a technical communicator in the foreseeable future; this is true at ten of the organizations (71%), including the three organizations that already employ a technical communicator. Of the two definite affirmatives, Participant 1 [NON] reported that his organization (an engineering services company) would be actively

seeking one in the very near future; Participant 13's [TPC] company places technical communicators with client organizations on a regular basis. Participant 6 [NON] was unable to answer the question conclusively because of uncertainty on what the role would entail.

Two participants (Participants 3 [NON] and 7 [NON]) reported that their organizations would consider the possibility if the circumstances were fitting. Both participants are in positions of leadership: the executive director of a non-profit (where a bilingual technical writer could be useful in helping her with documentation and communication needs) and the owner of an IT services company (where technical communication services could be outsourced for print marketing and other needs).

The table below summarizes each organization's openness to hiring a technical communicator as reported by study participants. Supporting details of each participant's response are also provided.

Table 4. Organizations' openness to hiring a technical communicator, as reported by participants

Participant Number	Type of Organization	Reported Openness to Hiring a Technical Communicator	Supporting Details
TPC Professionals			
4	Manufacturing Supply	No	The organization does not need another technical communicator at this time
10	Environmental Management	No	The organization does not need another technical communicator at this time
12	Higher Education Technology	N/A	The implication is that another technical writer is not needed
13	Communications Staffing	Yes	Their organization has done "hundreds of placements" of technical communicators and will continue to staff them to various clients.
Non-TPC Professionals			
1	Engineering Services	Yes, with a formal plan to do so in the near future	There is a recognized need for a technical communicator on staff
2	Engineering Services	No	Reports generated by the organization require specific training and certification
3	Immigrant Rights	No, but the possibility exists in the future	A bilingual technical communicator is a possibility; the executive director would need to know more about a specific candidate's skill set

Table 4. Organizations' openness to hiring a technical communicator, as reported by participants (continued)

Participant Number	Type of Organization	Reported Openness to Hiring a Technical Communicator	Supporting Details
5	Industrial Gear and Motor Modules	No	Not at a satellite office/branch location, but possibly at corporate headquarters (unknown)
6	Enterprise Finance & HR	Unknown	The participant is uncertain of what this role would entail or what the need would be
7	IT Services	No	The owner has no plans to hire a technical communicator; however, one could be used in a subcontracting situation if needed
8	Restaurant Distribution	No	Not at a satellite office/branch location, but possibly at corporate headquarters (for facilities and trucking)
9	Project Management	No	"I don't think we necessarily need a technical communicator, just ... to better work our processes to let other folks do the technical communication"
11	Public High School	No	Not at the school level, but possibly at the district office (unknown)
14	Insurance/Information Technology	No	A technical communicator is not needed at the moment as a communications specialist filling that role was hired within the last two years. That said, the department would like to diversify the role so that it takes on project management and other responsibilities.

Originally, I had considered this phenomenon a pattern among the pilot study's findings, essentially like the four patterns discussed above. However, later feedback led me to realize that this phenomenon is different in a few key ways. First, organizations may not have a legitimate need to hire a technical communicator (or, put another way, a technical communicator may not add much value to an organization in its present form); in such cases, there may not be much more to say about it from a research perspective. In addition, the need derives from many factors—budgets, quantity of work, and so on—that are both difficult to control and difficult to generalize.

As I thought about the "openness to hiring" phenomenon, though, I realized that it can have an impact on the employment and use of technical communicators; and, at the very least, it merits discussion as a study observation. To that end, I will expand on factors that appeared to have an impact on whether a technical communicator would be hired in

the organizations in question; these factors emerged from my analysis of study data thus far, and I intend to see how they bear out in interviews in further research.

Based on pilot study data, the lack of openness to hiring a technical communicator in these cases may derive, at least in part, from one of three factors. One is lack of knowledge of what a technical communicator actually does (or is capable of doing) among people making personnel decisions. Participant 6 [NON], a product manager, captured this idea well: "I'm not sure what a technical communicator would do, or what that role is responsible for." Even Participant 3 [NON], a non-profit director who stated there would be some openness to the idea, stated, "I would need to know more about the skills of a [particular] technical writer before making the decision."

Other participants focused on an implied exclusivity of writing skills or genre-oriented tasks of a technical communicator (as opposed to other, more diversified skills) as a basis for that lack of openness.

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Participant 2 [NON], an engineer, reported that “I don’t think my current company would be interested in hiring someone for the strict purpose of writing reports.” Participant 7 [NON], an IT services owner, reported no near-term plans to hire a technical communicator but said the possibility of subcontracting one existed when he needs trifolds or someone to focus on “the linguistics of it [marketing materials].”

A second factor is a perception that the competencies a technical communicator possesses (writing, editing, visual design, document control, and so on) can be duplicated by employees who are already on staff. This perception emerged specifically in three of the interviews in my study. Participant 9 [NON], a project coordinator, exemplified this well: “I don’t think we necessarily need a technical communicator, just need to better work our processes to let other folks do the technical communication.” Even one of the practicing technical communicators, Participant 10 [TPC], reported a limited perceived value of an additional technical communicator at his organization: “I believe the roles that a position like technical communicator would fulfill are adequately shared by many departments within the company [where] I work. The shared information and information dispersal responsibilities seem to be handled well by the group.” Though the participant did note that, with time and growth, openness to the idea of hiring a technical communicator may increase, this point underscores the importance of two themes: (1) potential challenges to pathways toward employment for technical communicators and (2) the importance of competency diversification and understanding of contextual fit within an organization.

One finding that emerged three times (and worth noting) was that organizations with a central office and one or more satellite offices may have different needs for a technical communicator. This finding was noted

in interviews of the marketing coordinator at a large gear and module company (Participant 5 [NON]), the assistant manager at a large regional restaurant supply company (Participant 8 [NON]), and the teacher at a local school district (Participant 11 [NON]). Participants who worked at the satellite or branch office would say that their office did not have an immediate need for a technical communicator, but that it was possible that the central office may. For example, Participant 8 [NON] indicated that there would be no need for a technical communicator at the store level; however, the company’s facilities and trucking divisions (headquartered in a different state) may be able to use a technical communicator to write standard operating procedures for facility setups and instructions for their delivery drivers. This point implies that the technical communicator’s role in larger organizations may become more valuable at the organization’s headquarters, where corporate operations are overseen, large amounts of documentation are produced, and various kinds of communications are centralized and dispersed to satellite locations.

Notable Overlaps and Dichotomies in Data Across Findings Among All Participants and Within Sub-Groups

I noted some overlaps and differences in study data within different sub-groups and across different categories of findings. Many of these overlaps and differences were discussed in preceding sections. For ease of reading, I have organized notable similarities and differences in the findings among all participants, TPC professionals, and non-TPC professionals into the table below. In some cases, I observed more granular findings within industrial/occupational sub-groups (such as people working in engineering or management roles) and have noted those as well.

Table 5. Notes on findings based on occupational categories

Finding	Interview Questions on which Finding is Based	Notable Data Among TPC and Non-TPC Professionals	Notable Data Among TPC Professionals	Notable Data Among Non-TPC Professionals
The need for diversified skills related to communication within organizations and knowledge of organizations themselves (Pattern 1)	3, 4, 5	Skill diversification enhances the marketability of professionals working in communication roles	Organizational knowledge emerged as key to success in communicative processes (Participants 4, 10, and 12)	Skill diversification is essential, and adds value, in communication roles (notably expressed by Participants 1, 3, and 14, all in management roles)
Varying knowledge of what TPC is (Pattern 2)	7, 9	Manuals, content, communication(s), documentation came up several times	<p>The field is changing.</p> <ul style="list-style-type: none"> Participant 12: Toward a client focus and away from documentation. Participant 13: Toward greater inclusion of different workplace settings (for example, surprisingly, casinos). 	<p>Responses were most variable to question 7 (about what comes to mind when one hears "technical communication")</p> <p>Not surprisingly, Participant 3, who had previously managed a group of TPC professionals, provided the most "textbook-like" answer: "Someone who writes user guides and repair manuals. ... having knowledge in a technical field as well as communication knowledge. ... a hybrid who can accurately simplify complicated information to various audiences"</p>
Commonalities of communication types within organizations (Pattern 3)	4, 5, 6	<p>Emails are common across all positions</p> <p>Hypertext media and meeting documentation are used by more than 50% of participants</p>	<p>Manuals and process documentation were reported by 3 TPC professionals (Participants 4, 10, and 13)</p> <p>3 practicing technical communicators reported having to work and coordinate documentation with multiple departments such as sales and marketing (Participants 4, 10, and 12).</p>	<p>Proposals were mentioned by both participants working in engineering fields (Participants 1 and 2)</p> <p>Proposals were mentioned (Participants 5 and 6) or implied (Participant 9) by all 3 participants in project or materials coordination roles</p>

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Table 5. Notes on findings based on occupational categories (continued)

Finding	Interview Questions on which Finding is Based	Notable Data Among TPC and Non-TPC Professionals	Notable Data Among TPC Professionals	Notable Data Among Non-TPC Professionals
Reported effectiveness of communications produced by organizations (Pattern 4)	6	A majority (64%) of participants reported communication processes to be effective or at least partly effective	<p>Participants 10 and 13: Processes are effective</p> <p>Participant 12: Processes are improving with standardization, which has been slow to happen</p> <p>Participant 4 did not have enough information to assess</p>	Both participants working in engineering companies reported limited effectiveness of internal (Participant 1 and 2) or external (Participant 1) communications
Limited openness to hiring a technical communicator in the foreseeable future (Observation)	9	A majority (71%) of respondents reported that their organizations were not likely to hire a technical communicator in the near future	<p>All 3 practicing technical communicators (Participants 4, 10, and 12) reported that their organizations will not be hiring a technical communicator in the near future</p> <p>Participant 13, who owns a communications staffing company, places technical communicators at client locations regularly</p>	<p>Communication needs may already be addressed by existing non-TPC staff (Participants 2, 9, and 10; note Participant 10 is a TPC professional)</p> <p>A technical communicator may be better suited to the central office rather than a satellite location (Participants 5, 8, and 11)</p> <p>One engineering company will be hiring a technical communicator in the very near future to fill in gaps in engineers' communication (reported by Participant 1, in a leadership position)</p> <p>The immigrant rights non-profit and IT services firm would consider TPC services if circumstances were appropriate (reported by Participants 3 and 7, respectively, both in leadership positions)</p>

Implications

This study points to several notable implications that merit discussion and further research. First, interview data from participants suggest that TPC as a field continues to face challenges to its professionalization and legitimacy. Although these challenges cannot be generalized from a single pilot study, data suggest both the difficulty of positioning technical communication as a profession in organizations across a broad economic spectrum and the need to continue researching professionalization and legitimacy empirically. As the results of this research are formally communicated in the discipline's journals, we need to ensure that the findings most pertinent to industry best practice continue to reach TPC professionals and that they, in turn, continue to communicate their needs to researchers.

Second, perceptions of TPC among non-TPC professionals reveal accurate conceptions of the field on a basic level; however, those conceptions lack the depth needed for an accurate understanding of the profession in a broader sense. Perceptions of the field's functions ranged from communicating financial and business data to writing user documentation to "development or developer type information" to "explaining things of a technical nature." In aggregate, participants' responses suggested a kaleidoscope of perceptions with evidence of understanding fundamental aspects of TPC; however, nowhere did a participant mention visual design, knowledge management, or what some in industry might consider other "value-added" functions of TPC; and only once was project management mentioned as a specific competency.

On one level, this observation is understandable. People in one profession work with people in other professions without thinking much about what it is that their colleagues do. Why would a non-TPC professional care about, or need to care about, technical and professional communication? Furthermore, why would a technical communicator care about what non-TPC professionals think about the TPC field?

Both questions are important, and their answers derive from the fact that TPC, by its very nature, necessitates an inextricably collaborative dynamic among disciplines that is foundational to the success of a professional communication or project. Here, I again turn to the articulation view of communication

that Slack, Miller, and Doak provided; in this process, the technical communicator becomes a part of the articulation and rearticulation of meaning co-constructed by various actors in communicative events. In this process, the technical communicator contributes a set of skills and sensitivities that optimally lead to clearer, more audience-centered communications yielding benefits for users, organizations, and stakeholders, including employees. Yet the process, and thus the benefits to end-user communications, are compromised when the technical communicator's role and capacity are not fully understood by managers, subject matter experts, and others involved in creating, managing, and disseminating published communications. In some scenarios, decision-makers may leave the technical communicator out of the process completely; in others, they may decide not to hire (or may not think of hiring) a technical communicator, even when doing so would benefit an organization or project significantly.

The fact that the decisions of non-TPC professionals so often impact TPC professionals in profound and often existential ways speaks to the importance of how non-TPC professionals perceive and understand the field. In many organizations, particularly smaller ones, the person who manages any technical communicators on staff is a non-TPC professional with a background in engineering, sales, marketing, law, or some other discipline. There is a great deal of variability as to whether this person has extensive experience working with technical communicators, what kind of value the person places on TPC as a field, or whether the person has even had a class in professional writing. The same is true of those with whom the technical communicator must work on communication projects and even those who will be making decisions on whether to hire one. In the process of articulating meaning and finding a place of power in larger organizational and economic landscapes, the TPC professional must therefore consider the perceptions and backgrounds of non-TPC professionals involved in communicative dynamics.

A third implication that study data suggest is that obstacles exist to expanding the use of technical communicators in some workplace settings. In the study, these obstacles sometimes resulted from organizational size, whether the office is a company's central or satellite location, the assumption of roles by

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non-TPC professionals, and a lack of understanding (by non-TPC professionals) of TPC as a profession and the value it brings. Questions need to continue to be asked, first, about how advocacy for the field of TPC can be promoted, as well as the contexts in which such advocacy should take place. In addition, questions should be asked about how non-TPC professionals develop an understanding of the field of TPC and how those in the field—both academics and practitioners—can help expand that understanding.

Findings also suggest that technical communicators need greater training in organizational matters. Among important considerations in this area are, potentially, how organizational politics function, how to navigate different organizational structures, how to assert their value in diverse workplace/organizational settings, and how to deal with unexpected contingencies that result from a lack of understanding of what they do. As teachers of TPC, we should ask such questions as: *Can the acquisition of organizational knowledge be taught as a competency in TPC courses? If so, are we doing a good enough job teaching students about it?* Even though organizational knowledge is often developed organically, there is something to be said about the importance of topics like organizational communication, organizational culture, and organizational psychology as part of a technical communicator's professionalization.

Finally, there is an ongoing need to research the alignment of academic and practical perspectives on TPC. Conceptually, academics are interested in theory and pedagogy; practitioners particularly want to know about important competencies and how to make themselves continually marketable in a changing economy. Both benefit from and have a vested interest in research, and research is a significant piece of continuing to find common ground between theory and practice. As I indicated in the first implication on professionalization and legitimacy, academic research and industry practice must continue to inform one another; there must be a dialogue. Organizations like STC will continue to be instrumental in this dialogue.

Observed Limitations

As with any study, this research presents potential limitations that should be acknowledged. Over the course of my research so far, I have identified potential limitations in these areas.

Limitations of sampling method: As I discussed in the methods section, the qualitative sampling method I have used in the study is that of the snowball and convenience sample. This sampling method provides many benefits; however, one of the intrinsic limitations is that the base sample population is limited to people I previously knew or had previously encountered in some capacity. A truly random sample would be difficult to achieve in a study of this type; however, other sampling methods could be employed in future studies.

Limitations of participants' organizational knowledge: An employee of an organization will have certain knowledge of that organization and its work processes—knowledge that varies as a result of what level in an organizational hierarchy the person occupies, what department they work in, what organizational artifacts the employee encounters through the course of their work, and where an employee works spatially and geographically.

Limitations of access: In the context of this research, I am referring to two kinds of access: my access to particular people and workplaces; and participants' access to information, resources, and artifacts. If, for example, a study participant had broad access to an organization's quality system, they are much more likely to know about the organization's quality system documentation (standard operating procedures, work instructions, and so on). On the other hand, that same person may have nothing to do with customer-facing documents, such as project proposals, which substantially limits the data that I can get regarding the processes associated with customer-facing documentation in that organization.

Limitations of interview settings: Once I had recruited and obtained the proper written consent from study participants, the greatest challenge that remained was how to conduct the interview (where the brunt of the study data were collected). In this study, it is nearly impossible to standardize the interview format due to factors like geographical distance, scheduling, and the stated preferences of individual participants. As a result, the interview formats have varied from face-to-face to email-based to one phone interview (in the pilot study, none of the interviews was conducted using Skype or another synchronous meeting tool, although the study design does allow for that possibility). A face-to-face interview provides greater opportunity for conversational give-and-take that is more difficult to

duplicate via email. On the other hand, email provides greater ease of documentation yet still provides an opportunity for follow-up. Though, as a researcher, I would prefer a more standardized format, I find that the format flexibility is beneficial to participants; of those who were interviewed, I did not have significant difficulty gathering data or following up when needed.

Limitations of design: The original study design did not include a request for artifacts such as marketing materials and proposal template text, and therefore no specific plans were included for an analysis of such artifacts. In discussion with a colleague, I recognized that having these artifacts could provide another important basis for analysis. This recognition leads to two possible adjustments to the study design, and they are not mutually exclusive: (1) asking participants in writing about obtaining written artifacts and (2) analyzing publicly accessible artifacts (such as Web content). Option 1 would require additional IRB review and written approval from participants and their organizations' leadership. Option 2 would be both easier to implement and less likely to lead to conflicts with organizational leadership. Both would result in changes to the current study design.

Conclusion

Not long ago, Elizabeth Tebeaux asserted that “everything we have to write has to face answers to questions we have yet to prepare to answer” (2017, p. 19). Through my ongoing research, I seek to ask questions that will help us answer questions of significance to the legitimacy and professionalization of the field; in doing so, I hope to help TPC scholars think of questions that we have yet to ask in research on technical and professional communication practice—questions that academics will ask in large part to help the practical side of the field to grow its identity, marketability, and continued viability in industry settings.

When I first proposed this study, I was interested in learning about the types of formal communications that take place in organizations, how those communications were being created, and how technical communication was perceived by people working in different organizations. In many ways, those goals held steady from the beginning; however, they expanded to include notions of professionalization, legitimacy, and power because those constructs are inherent to the stability, viability, and marketability of technical

communication as a field. Although I disagree with Pringle and Williams's (2005) assertion that “[t]echnical communication has quite possibly arrived as a profession,” I believe that the field continues to professionalize and that our work as researchers will aid in that process. Through this professionalization will come greater legitimacy and power to articulate both linguistic and organizational meaning.

I see the contribution of this ongoing research as pragmatically combining academic theory with professional practice—not to seamlessly unify academic and industry views of technical writing, but to assert ways in which the two views can inform and learn from each other, exemplifying the productive affinity that St. Amant and Meloncon (2016b) suggest, identifying ways in which technical communicators can better professionalize and enhance their legitimacy in multiple disciplines, and building a more unified image of TPC and its value as perceived by people outside the discipline.

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Appendix A: Scripted Interview Questions

The following are questions that study participants are asked in each interview. As needed, follow-up questions may be asked of each participant for purpose of clarification or extension on themes that arise in the interviews. Participants are encouraged to elaborate on their answers as much or as little as they wish, and their right to skip any question is covered clearly in the written consent phase of the study.

1. What is your name, position, and company?
2. Tell me about your educational background.
3. What work do you do in your current position?
4. How does your organization handle professional communication with internal stakeholders? Examples may include reports, internal proposals, meeting minutes, and internal wikis, among other possible types of communication.
5. How does your organization handle professional communication with external stakeholders such as customers? Examples may external proposals, marketing materials, manuals, and web content, among other possible types of communication.
6. How do you feel about how formal communications are handled in your organization? Are the existing processes effective? Why or why not?
7. When you hear the term "technical communication," what comes to mind?
8. Has your organization employed a technical communicator in the past?
9. Do you feel management would be open to the idea of hiring a technical communicator? Why or why not?

How to Better Prepare Technical Communication Students in an Evolving Field: Perspectives from Academic Program Directors, Practitioners, and Recent Graduates

By Lindsay Emory Moore and Yvonne Earnshaw

Abstract

Purpose: The purpose of this article is to address the changing identity of the technical communication (TC) field based on how it's defined, what hard and soft skills are needed, what courses are beneficial, and how to best prepare students for the evolving workplace.

Method: We interviewed 15 technical communicators in three different categories (academic program directors, practitioners, and recent graduates) and analyzed the interviews to determine if technical communicators have similar perspectives about the field.

Results: Findings showed inconsistencies among the definition of TC, the required skills for students entering the workplace, the field's outlook, the value of professional development, the courses, and requirements of academic programs in TC.

Conclusion: The hybrid perspectives on these important questions challenge the framework for how we have traditionally considered these questions. This study provides additional context into how the academic field sees TC, how practitioners see it, and whether or not students are prepared for the workforce after graduation based on the coursework they have completed and the skills they have gained.

Keywords: practitioner, recent graduates, professional development, technical communication, student preparation

Practitioner's Takeaway:

- TC employers should be aware of the diversity in TC programs, as graduating TCers will have different skill sets based on the priorities of the academic institution.
- Practitioners and recent graduates agree that there are few prospects for advancement in TC, and TCers looking to advance will transition into management or a related field.
- Practitioners should collaborate with academic programs to identify gaps in student preparation.

How to Better Prepare Technical Communication Students

INTRODUCTION

From its inception, technical communication (TC) has been an evolving field that has changed alongside industry practices and technological advancements. In the past, technical writers were expected to find jobs in writing instructional and procedural manuals, but the landscape for today's TC graduates is markedly different and can involve extensive knowledge of marketing, Web design, coding, as well as traditional writing (Blythe, Lauer, & Curran, 2014; Stanton, 2017). These changes in industry standards and expectations create an unstable identity for the field of TC. The Bureau of Labor Statistics (BLS), for instance, which included "technical writer" as an official occupation in 2010, has already been called upon to update its label so as to not conflate a *technical writer* with a *technical communicator*. Scholars and practitioners alike agree that *technical writing* does not necessarily describe the work of all TC graduates (Henning & Bemmer, 2016). The changing identity of the field and the changing identities for technical communicators create uncertainty about the future and how technical communicators can confront these changes effectively.

In this study, we used an interview approach to obtain different perspectives of recent graduates, TC practitioners, and academics who serve as program directors in TC programs in order to provide context to previous studies where only one category of respondents was surveyed and to provide a broader view about how to best prepare students for the evolving workplace.

BACKGROUND

Scholars have taken different approaches to understand the demands of the field and how to create departments and programs where TC students can receive the needed skill sets for the job market. Qualitative researchers have considered questions about the field and how to best prepare students. They have analyzed the history of the field, looking to the past to understand the future (Kynell, 1999), categorized periods of the history of the field based on available jobs and technology (Kimball, 2017), and examined the professionalization of TC through the lens of theories and definitions of occupations (Carliner, 2012).

Qualitative scholars have also used diverse methods to consider changes in TC and how to best prepare

students for the workforce. Meloncon (2009, 2012) and Meloncon and Henschel (2013) have surveyed academic programs across the United States to provide a foundation of knowledge in TC. Using the results from Meloncon and Henschel's (2013) study, Stanton (2017) investigated which skills and experiences recruiters and hiring managers prioritized and compared those skills with TC undergraduate program offerings, concluding that undergraduate programs seem to be preparing students effectively. Similarly, several studies have examined workplace expectations and job responsibilities in TC. Lanier (2009) analyzed job postings for technical writing, noting the fast-paced changes in the field, and Brumberger and Lauer (2015) updated Lanier's study to provide a current snapshot of the modern TC workplace. Lanier's (2018) study similarly surveyed practitioners, asking them what TC issues they viewed as important. However, Lanier (2018) asked open-ended questions in his survey so as not to limit their responses by his own definitions or someone else's. Blythe, Lauer, and Curran (2014) took a different approach, surveying graduates of professional and TC programs, and querying the kinds of writing that technical communicators produce.

All of these studies indicated a variety of different skills required for TC graduates and types of writing they will perform, and produced foundational knowledge about the evolving field. However, a survey itself can limit its results. For example, Blythe et al. (2014) provided a list of 50 types of writing that respondents could select from. Though 50 is certainly a large number of writing types, the nomenclature of this list could have created skewed results. For instance, if the specific type of writing respondents wanted to choose was not present, they may have chosen one that was closest to what they would have said. Surveys do not provide a way to glean context from respondents or the ability for them to pose questions about the study's questions. In Brumberger and Lauer's (2015) study, when searching for job titles in TC, the authors stated that they "discarded jobs that were focused primarily on technical/tools rather than rhetorical work, because it is the rhetorical work that is at the heart of technical communication" (p. 228). In establishing boundaries for what TC is or is not, Brumberger and Lauer (2015) narrowed the results they might find in the kind of work technical communicators do.

Other recent research has reconsidered the methodology needed to answer these questions about TC by using interviews and hybrids of interviews and surveys. Looking to practitioners to bridge the gaps of how to best prepare students, Kimball (2015b) interviewed TC managers concerning the training and education of technical communicators. In a special issue of *Technical Communication*, Kimball (2015a, 2015b) and Baehr (2015) combined qualitative and quantitative instruments via the DELPHI system to survey eight TC managers in four iterations including two surveys, a focus group, and a Web conference. This study focused on questions about TC involving identities and relationships, products and processes, education and training, and what is on the horizon. These studies provide meaningful context to our understanding of the changing field's identity and how to best prepare students for it; however, more context from differing levels of technical communicators; such as recent graduates, practitioners, academics, and program directors in TC; is needed. Our present study provides needed context to previous work on the changing identity of TC and how to effectively prepare students to enter an evolving workplace.

PURPOSE

The purpose of this study is to present findings from 15 interviews with a diverse group of technical communicators (recent graduates, practitioners, and program directors) who address the changing identity of the field and how to best prepare students for the evolving workplace in TC.

Our study was guided by two research questions:

1. What is TC?
 - Is there a current, prevailing definition of TC across academics and practitioners?
 - Is there a difference between how the academic field sees itself and how practitioners see it?
 - How is the field changing in 2018?
 - What role does writing play in TC?
2. Are students in TC programs prepared for the evolving workplace?
 - What steps are academics/academic programs taking to ensure that they stay relevant?
 - What is the relationship between TC programs and practitioners?

- What skills do practitioners (especially managers and recruiters) want to see in new graduates?
- What are new graduates encountering as they move from academia to the workforce?

METHOD

Participant Selection

In selecting a method to answer our research questions, we wanted to hear perspectives from a variety of people who worked in and were knowledgeable about TC. By using a qualitative research design, we were able to present multiple perspectives into a complex situation (Creswell, 2008). Through interviews, we asked probing questions and obtained information from experts in the field that helped to provide an in-depth look into TC and contextualize survey findings (Creswell, 2008).

We decided upon three categories of interviewees, which included program directors in TC programs, practitioners working in the field, and recent graduates from a TC program. By using purposeful sampling, specifically maximal variation sampling in which “the researcher samples cases or individuals that differ on some characteristic or trait” (Creswell, 2008, p. 214), we were able to identify and select individuals that fit into these three categories, were knowledgeable about TC, and could describe their experiences.

In order to identify individuals in TC programs, we used our roles as TC faculty members who read publications in the field and networked with other faculty members. One of us had worked professionally in the field and was a former member of the Society for Technical Communication (STC). She contacted former colleagues and current and former members from different chapters of STC across the United States. We also contacted recent graduates from undergraduate TC programs. Some of the original contacts forwarded our request on to others or provided us with additional people to contact.

Participants

We originally emailed 42 people to request an interview. A few people declined due to other time commitments. For the majority of first and second requests, we did not receive responses. In the end, we had 15 interviewees who agreed to participate in the study.

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Interviewees belonged to three categories: program directors, TC practitioners, and recent graduates. All of the participants live and work in the United States. We interviewed four tenure-track professors from four different institutions across the United States, each having directed a TC program at the graduate or undergraduate level. All four program directors earned PhDs in English with specialization in technical communication or a related field. The departments they work for were diverse with some offering classes in TC to an undergraduate or graduate degree in TC. We interviewed six practitioners, ranging in experience from 10–31 years, with an average of 18.2 years of experience. Each of the practitioners worked for technology-based companies (software, manufacturing, telecommunications) located in major metropolitan areas of the United States. Of the practitioners we interviewed, one has a PhD in English with a concentration in technical communication, two have master's degrees in technical communication, and one has a bachelor's degree in English with a minor in technical communication. One practitioner has a bachelor's degree in a subject other than technical communication or English. Their job titles were

- Lead Technical Editor (re-titled to Information Architect)
- Information Developer
- Senior Technical Communicator
- (retired) Technical Communication Manager
- (retired) Executive Director
- Executive (enterprise)

Three of the practitioners were familiar with TC curriculum due to their roles as guest lecturers or adjuncts for universities or from serving on departmental and college advisory boards.

We interviewed five recent graduates who each graduated with a Bachelor of Arts in Technical Communication in 2016 and 2017. Their current job titles consisted of the following

- Technical Writer II
- Technical Writer
- IT Technical Writer
- Technical Writer and Instructional Designer, Lead of the Documentation Team
- Business Operations and Communications Consultant

The interviewees earned a variety of degrees, mostly

focusing on TC and English-related programs. In Lam's (2014) article about the educational background of scholars who are currently publishing in TC journals, he found that PhDs in English were the most represented. Similarly, in our study, all five tenure-track faculty earned PhDs through departments of English. Our interviewees additionally supported Meloncon's (2009) study, which found that there was a larger percentage of Master of Arts degrees in Technical Communication than Master of Science degrees. Our interviewees who had a Bachelor of Arts in Technical Communication supported Meloncon and Henschel's (2013) research as well, and we will provide more information about undergraduate programs below in the Programmatic Information section.

Procedure

After agreeing to participate, participants signed the informed consent form and emailed it to the researchers. Then, individual interviews took place via Skype or cell phone and were between 36 minutes and 1 hour and 20 minutes. Interviews were recorded and later transcribed.

Interview Questions

The types of questions differed depending on the specific role of the interviewee, but many of the questions repeated across categories such as the definition of TC, the type of software recommended, and the required skills needed in TC. (See Appendix A for the full list of questions.)

The questions specific to recent graduates provided context on studies by Blythe, Lauer, and Curran (2012), Lanier (2009), and Brumberger and Lauer (2015). The course and programmatic questions contextualize programmatic information on TC coursework by Meloncon (2009, 2012) and Meloncon and Herschel (2013). Specifically, the questions we asked about elective courses were in response to a call for more information on elective courses and special topics courses in Meloncon and Henschel (2013).

We also sought to provide context to previous research of TC's place within the university structure that has been examined by Anklam (1999), Harlow (2010), Miller (1979), Moore (2006), and Wishbow (1999) as well as the educational backgrounds of TC scholars by Lam (2014).

RESULTS AND DISCUSSION

A common interview analysis technique is to review the interview data and look for patterns. Because providing context to previous research guided the process of writing our interview questions, we have organized our responses into broad categories based on these studies

- Student preparation
- Field outlook
- Professional development
- Programmatic information

Each of these categories corresponds with interview questions in that category. For example, in the Student Preparation category, practitioners responded to questions such as: *What programs should graduates know to be marketable for a job in your company?*, whereas recent graduates responded to questions such as: *Do you feel that your program adequately prepared you to join the workforce in technical communication?* Program directors responded to questions such as: *Does your program teach any specific software to undergraduates? Are there specific software that they are required to know?* Because participants' answers differed across groups, the results from each category are divided by group and then discussed as a whole.

Student Preparation Results

In their responses to questions regarding student preparation for the current field of TC, interviewees' answers differed across categories but were similar within their category. We asked all categories of participants questions about student preparation such as what kinds of hard skills and soft skills were taught in TC programs or what kinds of hard and soft skills prospective employees should have to be marketable for a job. Rainey, Turner, and Dayton (2005) note that ability with various forms of technology have traditionally been known as "hard skills" whereas nontechnical skills such as writing and collaboration are known as "soft skills." In using the nomenclature "hard and soft skills," we were also interested in learning how the different categories of interviewees would define/identify these skills. All categories of interviewees responded to "hard skills" in terms of computer software.

Student preparation results: Program directors

Program directors mostly answered that students in their programs would receive exposure to certain software, but, for the most part, they were expected to learn software on their own time. Interviewees used phrases such as "we introduce" or "they should be able to" in their responses about software. Two program directors specified that students would receive basic training on Adobe InDesign, and one program director said that students would also receive some basic training on Adobe Creative Cloud. One program director stated, "To say we teach them is a little deceptive ... Basically, we give them an introduction to tools and then they have to teach themselves because that's what we have to do on the job." Two of the program directors also noted that students should have knowledge with single-sourcing and coding. One program director said that students in the program currently do not receive training on any software, but he felt that this was problematic for students. He continued by saying that, ideally, students would have "serious coding skills in HTML, XML, CSS, php, or one of the other powerful scripting languages like C++ or C." Two program directors additionally responded that students' abilities to write and present information were essential skills. One of the interviewees said, "The skill you have as a writer and the skills you have as a presenter are two of the most important things you are going to be evaluated on by the person who gives you a raise." One of the interviewees also mentioned that students should be able to assess the ethical problems they will confront in industry. Another program director noted that students should have a better sense of "critical genre: strategies and practices, not just rules," as well as knowledge about how TC works in industry.

Student preparation results: Practitioners

Practitioners also answered questions about required technical skills sets for potential employees in terms of computer software. Two practitioners answered that students knowing MadCap Flare would be beneficial: Of these, one said it would not be an expectation, but that it would make for an extremely marketable candidate. DITA was another program that two practitioners listed. Two practitioners also said that Microsoft Office was a requirement. One practitioner

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specifically noted that Adobe Creative Cloud was not a useful software for employees but did say that students should know Acrobat. Other practitioners' answers included

- MadCap Analyzer
- JQuery
- Angular
- JavaScript
- Vizio

Practitioners also listed other computer skills potential employees are required to have, and three of them included coding. Two practitioners specifically listed HTML, and another said, "I am looking for someone who is not afraid to dig down into C++ or Python or Java ... if they don't understand the technology, all they're doing is copyediting [and] that's not effective writing."

For soft skills, two practitioners listed writing. Otherwise, the answers were diverse and included

- Take direction
- Think quickly on their feet
- Research and draw conclusions from research
- Understand complex information

When practitioners were asked whether recent graduates were prepared to enter the workforce, practitioners differentiated between preparedness for the content of work and preparedness for the workforce in general. Two practitioners complimented recent graduates' writing abilities, but both followed this with knowledge students still needed. One practitioner said, "Fundamentals of writing are there but not tool knowledge." The same practitioner added that a student's tool knowledge depended on the program the student graduated from. "I ran into one student at [university name]. The teacher didn't understand [MadCap] Flare either. Didn't know how to help her troubleshoot it ... These are the common things you might run into. That seems to be lacking." Another practitioner commented that:

My biggest beef is that academics don't even want to teach the tool because they change so much, but I think they're doing a huge disservice to their students by not even mentioning the tools that are out there at the moment because when they graduate they need to be able to figure out how to learn those tools so they can get a job.

Another practitioner stated that students write well, but "what is lacking is their ability to transition into a working environment where they're expected to track their progress." The same practitioner added that recent graduates seem to wait for instruction while supervisors expect them to begin work with no instruction. Similarly, another practitioner noted that recent graduates have unrealistic expectations. All of that said, all practitioners reported that they regularly hire graduates from TC programs, and some practitioners also recruit students from communication or journalism programs. One practitioner specifically said that her company does not recruit graduates from English programs or marketing programs because "the writing is really different;" however, this practitioner also admitted that she didn't understand how journalistic writing was similar enough to TC to be acceptable. She then realized that some of the upper managers in her company come from journalism backgrounds.

Student preparation results: Recent graduates

Recent graduates answered questions about technical skills in terms of computer software. All listed that when they graduated, they had learned Microsoft Word. Three of the interviewees replied that they had been given training on Adobe InDesign, and two interviewees said they knew Adobe Photoshop. One interviewee replied that he was "familiar with" Adobe Creative Cloud programs. Two interviewees mentioned other computer skills, such as coding. One interviewee said, "I know how to write CSS and HTML pretty well, which I learned in a course." One student said that she learned MadCap Flare because she worked in a department computer lab and training was available.

When asked if there was anything they wished they had learned in their university programs, four out of five listed computer skills and software. In their responses, two recent graduates mentioned that they wished they had learned more about Microsoft Excel. Two other interviewees emphasized the need for students to learn more software in general, and one of them said that "in the ever-evolving world of software, it is just hard to keep up." Another interviewee mentioned that the program's emphasis on Adobe Creative Cloud "over-prepared students" because not all jobs will pay for the licensing for only person to use it. (This interviewee is the only writer in her department.)

Other computer programs and software that recent graduates wish they had learned were

- MadCap Flare
- Apps (IOS vs. Android, app design, etc.)
- eLearning programs

In terms of soft skills, all recent graduates responded that they learned about effective collaboration in their programs, listing skills such “teamwork,” “interpersonal skills and working in groups,” and “working in a team.” Four recent graduates also listed that presentation skills were emphasized in their programs and those skills have been beneficial. Two recent graduates responded that working with clients had been really useful in teaching them interpersonal skills with subject matter experts (SMEs). One graduate said, “interviewing SMEs was really valuable,” and another said that working with clients offered “real-world aspects” such as “differing opinions and conflicts.”

When asked if their program adequately prepared them to enter the workforce, all interviewees answered “yes.” Two recent graduates specified that working in their department’s lab provided additional preparation. Two of the other recent graduates’ answers included

- “I do a lot of creative design work in my job now... and I think creativity gets left out of Tech Comm.”
- “The program is what you make of it, and I had a better experience in the program than others [through] internships and teaching lab courses.”

The recent graduates we interviewed were able to secure employment in the field with the largest time lapse between graduation and job placement being five months; the quickest graduation-employment turnaround was two weeks. Two of the recent graduates have had more than one full-time placement since graduation: one was hired as a contract worker and resigned after one year, and another was hired by a different large company and laid off a few months after starting. All recent graduates reported that they enjoyed their jobs.

Student Preparation Discussion

Responses on student preparedness revealed dissonance on the required hard and soft skills for technical communicators entering the field. Recent graduates and program directors reported that they were provided with/provide training on Adobe Creative Suite programs, while practitioners did not view it as required software for potential employees (with the exception

of Adobe Acrobat). In addition, practitioners were not in agreement about what software should be required, and recent graduates likewise did not have an answer on what software they should have been taught.

We determined that a useful way to consider the issue of changing technology in TC was with the idea put forth by one of the program directors: *technological literacy*. It is less important to teach every emerging software than it is to explain why and how technical communicators use it in the workplace, and how each software relates to one another, even terms of open sourcing and proprietary information, and complements technical communicators’ sense of medium. For example, this program director stated that she presents all “major software” alongside its open source equivalent. This is, of course, easier said than done and requires vast and evolving knowledge from TC faculty. One suggestion from a practitioner (who is also an adjunct faculty member) is that practitioners could be hired to teach software workshops. With regard to professional development, another program director noted the need for faculty to participate in practitioner-based professional development and the corresponding need for university support to do so. Field-based training in new and developing technology and technological literacy for faculty demonstrates this need. These suggestions do place an enormous amount of responsibility on TC faculty and TC program directors to keep current on developing technology. As established degree programs already exist in Computer Science and other areas, a multidisciplinary approach to teaching technology in TC or partnerships with other departments could alleviate this burden.

Coding was another skill that both program directors and practitioners noted as a required skill, yet only one recent graduate reported that they gleaned this skill in their program. This could be the result of students being forgetful in the moment or even not recognizing coding as a skill; however, with the level of emphasis placed on coding from practitioners and program directors, students should have felt a corresponding level of emphasis placed on it as students. As a matter of technological literacy, it seems important to note that teaching all programming languages is not as important as introducing the differences between them and the reasons one might be used in certain industries over others.

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Required soft skills were also misaligned according to our interview responses. Recent graduates all reported collaboration as a skill they acquired, but practitioners and program directors did not list it as a required skill. Though not many will argue that collaboration and teamwork are important skills for most jobs, a heavy emphasis placed on it in undergraduate programs may result in some of the issues of professionalization and workplace preparedness brought up by practitioners. A lack of full responsibility for projects could lead to dependence on others for instruction and affirmation. Moreover, one recent graduate and one practitioner expressed the need for more professionalization, in terms of workplace accountability and better understanding of corporate expectations, as students transition into the workplace.

Creating partnerships between industry and academic programs will alleviate some of the problems of transition as partnerships can create opportunities for internships, co-ops, and authentic class projects. To ensure effective partnerships, both academics and practitioners should work to create these opportunities, as producing more prepared students is mutually beneficial.

Field Outlook Results

Another key area we looked at was the outlook of the TC field. Every interviewee was asked to define TC. The responses varied from more traditional writing to a catch-all definition. (See Appendix B for the full responses.) Additional questions addressed the changes in the field and where the field is going in the future. For recent graduates, we specifically asked about career advancement opportunities and long-term future career goals.

Field outlook results: Program directors

After providing the definition of TC, we asked program directors two follow-up questions:

1. *Does your department/university define it the same way you do?*
2. *Does the field define it the same way you do?*

The answers to the first follow-up question were mixed: One program director answered “Probably. Pretty much.” Another interviewee said, “Yes, because I do all of the definitional work for the department.” However, this interviewee continued by admitting that there was “slippage” and referred to a divide between technical

writers and technical communicators. Two other program directors answered no, and one answered, “Hell no.” These program directors both followed-up their response by describing the small number of TC faculty versus traditional English faculty and, in one case, the resulting funding issues between the two groups.

In answering the second follow-up question, interviewees answered, “yes and no,” referring to the differences between academics’ and practitioners’ definitions. One program director noted that because “academics have limited exposure to practitioners, they often approach technical communication in a way that a practitioner would find foreign,” and he joked about the overuse of academic words such as *discourse*. Similarly, another interviewee noted the differences between academics and professionals in regard to participation in conferences and organizations, noting that academics and professionals do not participate and present in the same organizations. For instance, the program director said that academics don’t participate in STC conferences but do present in IEEE conferences where a professional would see IEEE as “hooey.” Another program director responded by saying that professionals’ daily work is more narrowly defined than academics’, and their definition might be different as a result.

When asked where they see the field going in the future, particularly the next 10 years, two program directors immediately said they didn’t know while two others said that it would stay the same. Of the two interviewees who said they didn’t know, one mentioned several factors that will determine the future of the field including

- Possibility of advancement for technical communicators
- Hybridization of fields such as Media Studies
- Value of writing and editing

The other interviewee who answered “I don’t know” followed up by asserting that the field faces challenges such as start-up technologies and information literacy. The interviewee noted that TC has the potential to lead in the “fact neutral world,” but, currently, technical communicators do not see themselves this way. Of the two interviewees who said the field would stay the same, one continued by emphasizing that younger scholars by and large do not have experience working as technical communicators, and thus paying attention to

professionals in the field is key to not becoming an echo chamber. The other interviewee who answered that the field will stay the same noted that the field has always been the same, but job titles will change: “What we call ourselves and industries where we have been most present will shift ... and people will have to evolve.”

Field outlook results: Practitioners

After asking practitioners to define TC, we asked this follow-up question: *Define technical communication/ technical writing in your company. Would your company define it the same way you do?* All practitioners said that their companies would not define TC the same as they do. One practitioner said, “Honestly, they don’t know what a technical communicator is.” Two other practitioners said they felt their companies were moving to an understanding of how TC has changed. One practitioner said her manager understands the difference and “is making a change, but it’s a slow process.” Similarly noting a change with managers, another practitioner said that “though he would like to think it is the same,” there is likely only 80% of the same definition in other companies, and this is partly a result of managers who understand TC. Another interviewee recommended that the key to understanding is to create bridges between departments.

When asked how TC has changed since they have been in the workplace, practitioners related changes to new technology such as digital experience and new software tools. One practitioner addressed the difference between technical communicator and technical writer remarking, “I think we have defined ourselves too narrowly as technical communicators” as opposed to business analysts or digital experience titles. Two practitioners asserted that writing ability seems to have decreased in importance in favor of technological skills. Of these, one practitioner continued by stating that there is a move toward “structured content” and templates. Another interviewee referenced the growth of the field, asserting that because there are so many more graduates, their level of experience with certain genres was more important now. For instance, in this practitioner’s company, instructional materials are the dominant genre, and when recruiting, they specifically look for graduates who can show writing samples in this genre.

Field outlook results: Recent graduates

We asked recent graduates, who graduated in the classes of 2016 and 2017, *Have you seen any changes in the field since you graduated?* Only two responded yes when asked if they have noticed any changes in the field since graduating. One interviewee who had recently been on the job market again said, “Creative skills are now a job requirement” and noticed an increase in job ads looking for “copywriting, marketing, and ad campaigns for events.” She also noted that AdLaunch seems to be a required skill now. Another interviewee who had recently been on the job market remarked that the field seems to be moving to a lot of “automated processes.” All of the other recent graduates said they had not noticed any changes in the field since graduation.

We also asked recent graduates about advancement opportunities for technical communicators at their current place of employment, and prospects for advancement were unclear for most of the recent graduates. One interviewee had already been promoted and is currently leading a documentation team, which is her second promotion since beginning work there. For the remaining recent graduates, advancement is less transparent as they are all the only technical communicator in their department or company. As a result, these recent graduates were unsure of what advancement would look like. One graduate said, “Advancement here would have to be something different because I’m the only one ... I’m a technical writer II, but there isn’t actually a I or III, just me.” Similarly, another graduate noted that she would need to move into user interface or app design; she also remarked that there are no “technical writers” at her company. The two other recent graduates were hopeful about the possibility of advancement in their current company: one interviewee remembered that she had a previous boss with the title “Senior Technical Writer,” but she was unsure that this role still existed, and the other interviewee hoped for flexibility in roles at his company as he wanted to move into management.

When asked about their long-term future career goals, one interviewee said that he had already decided not to remain in TC and hoped to go to graduate school to study instructional design, get an MBA, or possibly become an academic. The remaining four recent graduates planned to stay in the field; however, as advancement possibilities were unclear, they could not specifically set their long-term career goals.

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Field Outlook Discussion

The responses to the question of how to define TC revealed multiple places of dissonance within the field and exposed some of the current anxieties in the field. First, none of the definitions were the same, though there were some consistent patterns. Second, all practitioners and program directors reported that the outside view of the field is misaligned with those who practice it, and, finally, program directors reported that TC was likely defined differently for academics and practitioners.

Several of the definitions seemed to stem from varied meanings of the words *technical* and *communication*. (See Appendix B.) While several interviewees' definitions broadened the scope of *communication* in the field in terms of medium, and one, in particular, answered that TC "is not writing," at least four of the definitions by interviewees displayed more traditional aspects of TC that were focused on audience. For example, phrases like "using plain English" and making complicated things less complicated defined *technical* as being complex. Other interviewees' definitions articulated that *technical* was in reference to technology while others' displayed an evolving understanding of *technical*. These nomenclatural distinctions emphasized two important and debated questions in the field:

1. What is the role of writing in TC?
2. What is the role of technology in TC?

As the medium of communication in TC widens, we have seen debates about whether the role of writing in TC should be static. The question of defining TC and the follow-up questions emphasized older, traditional views of technical writing versus the newer understanding of technical communicator, and from the responses to follow-up questions, the external view of TC is one that is still ensconced in writing. This is affirmed by the job titles of the recent graduates we interviewed, of which all but one had *writer* in the title. However, recent graduates also reported a spread from 30–80% of how much writing they did on a daily basis, which also shows an inconsistency. Similarly, when asked about the required skills of a potential hire or graduate, less than half of practitioners listed writing. Moreover, not all program directors did either. Writing as a required skill is thus inconsistent as well.

Though these responses are not representative of the field as a whole, the lack of emphasis on writing

in these responses highlights the question of the role writing will play in the future of TC. While these responses affirm Henning and Bemer's (2016) call to revise the *Occupational Outlook Handbook* (OOH) definition of TC, it contrasts with Giammona's (2004) study, which found writing to be in the top five skills of TCers. Giammona interviewed 28 senior-level professionals, asking them to check-off a list of the top five most important skills for technical writers. Many of the professionals found it difficult to narrow the list to only five skills, but writing was common among all of them. As George Hayhoe stated, "I wish I would not have to check off writing—that I could take that for granted" (p. 350). Hayhoe's statement here about writing as an implied required skill could account for its absences in some of our responses. Many of the other skills listed were discussed by this study's participants such as project management, Web design, usability/GUI design, research, programming or hands-on technical skills, and business/industry-specific experience (p. 363). Skills listed in Giammona's article (2004) that were not mentioned by participants in this study were editing, organizing information, authoring and publishing tools, print document design, information architecture, interviewing/listening, and political savvy. In addition to the fifteen-year gap in these studies, we can likely account for some of the discrepancies between the required skill sets by the difference in methodologies in these two studies. The participants in Giammona's (2004) study were given a list of skills and asked to prioritize them, whereas the participants in this study were asked about required skills in an open-ended question.

The lack of clarity in TC advancement is also reflected in recent research. Baehr (2015) concluded that TCers "who demonstrate their abilities (and value) can more easily move into managerial roles [... and make ...] good project managers" (p. 116). Moreover, the BLS (2018) states that advancement can include working on more complex projects and leading and training staff members. In contrast, a study of TC managers reported that the TC "career levels off," even describing TC "as a career with a glass ceiling," as "traditional roles ... plateau" (Kimball, 2015, p. 144). Taken together, these studies may highlight the issue of branding and identity, noted by Carliner (2012) and Brumberger and Lauer (2015). Though advancement opportunities exist for TCers, they may not have "technical writer" or "technical communicator" in their

job titles. Carliner (2012) warned that a diversity of job titles within our field can cause devaluation, and although he was referring to the external view of TC, if recent graduates working in the field are unclear about their advancement opportunities, an internal devaluation of TC could occur as well.

Advancement opportunities can also change depending on the size and industry of a company. For TCers who are lone writers at their companies, advancement is less likely than for those who work as part of a large, TC department. Some of the recent graduates in this study may be limited in their advancement opportunities due to the size of their companies or the particular industries they are working in.

Professional Development Results

We asked practitioners and recent graduates two questions:

1. *Do you belong to any professional organizations in TC?*
2. *Do you participate in professional development?*

Though we did not specify Society for Technical Communication (STC) as an example, most interviewees talked specifically about it in their responses.

Professional development results: Practitioners

Practitioners disagreed on the importance of membership in a professional organization. Of the five practitioners, two are current STC members and one is a former member, but when asked about professional organizations, all practitioners mentioned STC in their responses. Of the two who are currently involved in STC, one interviewee described that in his ten-year membership, he has held positions at the chapter and national levels stating, “What you put into it is what you get out of it. I use it for networking,” and credits his last three job placements to networking with STC members. The remaining three practitioners held a negative view of membership in a professional organization such as STC. One practitioner described STC as a “relic of the past,” and another said the organization was “antiquated,” predicting that there would be “no benefit” to him. Three interviewees commented that membership in STC was declining and mentioned that some chapters had dissolved. According to George Hayhoe’s interview in Giammona (2004), STC membership peaked at 25,000 members in 2001 but had seen as much as a 20–25% decrease by 2003 (p. 351). Currently, the STC’s 2015 Year in Review states

that “membership hovered just below 6,000 members,” showing a 76% overall decrease in membership between 2001 and 2015. One interviewee commented that “people don’t want to pay dues” for information they can find online. One of these interviewees also participates in Meetup, which he describes as “more organic” in its professional development.

Professional development results: Recent graduates

Recent graduates were more consistent in their involvement in professional organizations and participation in professional development. None of the recent graduates were members of professional organizations, and of those who provided reasons of why they were not members, they listed the expense and lack of a direct benefit. Additionally, one recent graduate who was a student member of STC was unimpressed by the disorganization of the local chapter and, as a result, did not join at the national level after he graduated. One interviewee said that if he has questions, he “goes to the Tech Comm Reddit or Google” and sometimes asks for advice from his previous manager. For one recent graduate, when she was asked a follow-up question related to the decrease in STC membership, she replied:

That could also be [due to] general disillusionment. There was like a camaraderie in your job 10–15 years ago, but people don’t get severance packages or retirement anymore. There’s not a lot of loyalty anymore. The corporate landscape [as a whole] or business-employee loyalty could be in decline.

On the subject of professional development, recent graduates similarly reported little participation and explained that for most of them, it was unsupported by their department or company. Of the five recent graduates, one reported that she took a business development course through Lynda.com, but she also noted that Lynda.com is the only resource the company pays for. The remaining four recent graduates reported they did not participate in professional development. One interviewee mentioned her job title as a Contingent Worker (contract employee) excluded her from joining the Technical Communication Resource Group within the company. Other interviewees responded that attempting to attend a conference or a training would be an “uphill

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battle” with management as they were the only TC employees in their departments or companies. Clearly frustrated by the lack of support from the company for professional development, one interviewee stated, “It’s really frustrating to me. My boss clearly sees my technical communication skills, which are my writing, design, audience analysis, content strategy, Web design. They clearly see those are valuable, but they refuse to invest in continuing and building those skills.” She emphasized this disconnect between her skill set and the lack of recognition of it being TC, arguing that because managers do not understand what TC is, they are unwilling to invest in it.

Professional Development Discussion

Even among long-time practitioners, the benefit to their involvement in professional organizations, especially STC, and participation in professional development was inconsistent, and, consequently, it is unsurprising that recent graduates reported no membership in professional organizations and almost no professional development. That said, several of the recent graduates indirectly indicated that because they were the only technical communicators in their offices or departments, there was a need for a TC network. Several recent graduates reported having to teach themselves technology they did not learn in their coursework, such as MadCap Flare, and, perhaps more importantly, suggested a need for mentorship and professionalization in the field. When asked what he wished he would have learned in his program, one recent graduate reflected that that he had not ever learned how to research companies and how to apply for jobs other than by looking at large job sites. When he was laid off from a large company, he “needed to look at the market and really understand it.” Though university programs could potentially talk about some of these issues in a Capstone course, networking with other, more seasoned technical communicators in a professional organization could have provided this graduate with insider knowledge about the advantages and disadvantages of taking a job at a larger versus a smaller company. In addition, upon being laid off, the graduate would have had a large network that could have benefitted him in his second job search. However, practitioners who have had years of experience in STC demonstrated varying levels of contentment in their

experiences. Although one practitioner credited STC “with everything” because she felt ill-prepared for the workforce after finishing her master’s degree, she admitted that the organization is in a steady decline. Further, one of the practitioners who reported that he was not an active member of STC explained that he had been an active member for over 25 years and an STC Fellow but had let his membership lapse last year because “there was no benefit.” Practitioners and recent graduates alike complained about the expense of membership, and several interviewees in both categories did not see the benefit of it.

Practitioners’ engagement in professional development was inconsistent but was barren in recent graduates. Most recent graduates explained that they did not engage in professional development because it would not be supported by their company, and two graduates remarked that even asking managers for opportunities to attend courses or seminars would require a detailed rationale.

In Kimball’s (2015b) study, the managers he interviewed asserted that companies could do more to support technical communicators in their professional development, and without this kind of support, TC could become a career that “levels off” (p. 143). The responses made by recent graduates and practitioners in our study affirm this consensus from Kimball’s study. Our research, and particularly the interviews with recent graduates (though not specifically correlated), show a concerning lack of company investment in professional development.

As we thought about these issues, three things were apparent to us:

1. There is still a need for professional networking, meaningful professional development, and effective mentorship in the field, and, as TC continues to evolve, this need will likely increase.
2. STC is currently not viewed as an organization that can fill this need; however, in the past, it served this need well.
3. If STC (or another professional organization) would work to address the criticism it has received as well as to become a liaison between recent graduates, practitioners, and university programs, it could help to unify our identity as technical communicators.

Programmatic Information Results

We asked program directors and recent graduates to provide information (such as coursework) about their undergraduate and graduate programs to provide a snapshot of updated information about TC programs. We also asked program directors how they recruit students and asked recent graduates how they found out about the TC program.

Programmatic information results: Program directors

The program directors disagreed about where TC programs should be housed, either in a college of arts and sciences versus in a college of engineering. In describing the course requirements for undergraduates, most programs required that students take a service course and a senior Capstone course where students create a culminating portfolio and prepare for the job market. One of the interviewees said that everyone in the college is required to take two TC service courses (including the majors). Some programs required students to take courses from different categories of core competencies. Program directors also provided names for some of their elective courses. We identified several of these as traditional TC (or traditional rhetoric or traditional communication) courses such as

- International Technical Communication
- New Media
- Speech Communication

A majority of program directors listed courses related to gaming such as

- Writing for Games
- Weird Video Games
- Game Design

Courses focusing on visual elements were another pattern of elective courses we noticed with electives such as

- Applied Visual Communication
- Visualization
- Rhetoric of Photographs
- Visual Storytelling
- Visual Rhetoric

In responses to questions about recruitment, program directors showed various levels of recruitment in their programs. One program director responded that students in the university are encouraged to be interdisciplinary, and the department's course offerings are filled every semester based solely on student

interest. Another program director detailed a specific recruitment strategy that had three prongs:

1. Traditional recruitment via major and minor fairs held at the university
2. Programmatic outreach using “match sheets” with other majors in the college (specifically to recruit students for the minor or the certificate programs)
3. Outreach programs with area high schools and summer camps

The remaining two program directors described a more middle-of-the-road approach than the previous two program directors to include creating departmental scholarships for majors, recruiting new majors through service courses, and creating interesting, real-world projects in their courses (client projects, international/study abroad opportunities, etc.).

Programmatic information results: Recent graduates

We asked recent graduates to list the required courses for their degree plans. The requirements were all traditional TC courses such as service courses, Capstone, Internships, Style, Design, Editing, and Writing Procedures and Manuals. Several recent graduates could not recall the names of their elective courses, but some remembered one or two such as Usability and the User Experience, Science Writing, and Digital Media. Recent graduates could remember certain skills they related to courses such as “there was one where we did a lot of coding.”

We discovered that none of the recent graduates found TC through recruitment efforts. Students either discovered TC through a required service course or because of their own interest in technology. One student described that she used to code in HTML and CSS on her MySpace page to create unique design elements. She then began to understand basic elements of Web design and began researching majors where she could do related work. Three of the interviewees were defects from English programs in literature or creative writing.

Programmatic Information Discussion

The programmatic information supported most of the claims made by Meloncon and Henschel (2013) with some exceptions. Meloncon and Henschel demonstrated that a set of core courses was developing in TC programs. The programs described in our study, however, did not show alignment with regard to core courses. The required courses for all four programs

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were an introductory/service course (or courses) and a Capstone course. From our interviews, required courses do not show a commonality in curricula across universities. However, our sample size here is much smaller than the previous study, and as the authors are currently working on an updated state of curricula manuscript, the responses from our study may provide a small snapshot of current curricula until Meloncon's new work is released. Further, program directors reported a wide breadth of elective courses for their programs. One program director reported there were more than 120 TC courses at his university though they were not all taught. The varied course electives support the understanding that the field of TC is widening and also demonstrates some of the hybridization of TC with other fields (Carliner, 2012; Kimball, 2017). It is also worth considering that this large number of courses could contribute to the confusion of how TC is viewed outside of the field, which was reported by all of the interviewees in this study.

What's Next

Our research study was guided by two main research questions:

1. What is TC?
2. Are students in TC programs prepared for the evolving workplace?

Based on the interviews from 15 participants, there were inconsistencies in the definition of TC, which ranged from traditional writing to the inclusion of new technologies and tools. For some participants, writing should be the focus of TC and, for others, it should not be the focus.

Similarly, there were inconsistencies in student preparation for the evolving workplace. Several of the practitioners provided suggestions about how to bridge the gap between what is being taught and what the workplace is requiring. Classes should include an overview of major tools so students will be familiar with the names and at least what purpose they serve. Colleges and universities can draw upon adjunct faculty members who are practitioners in the field to discuss and showcase these tools. Colleges and universities can also partner with more local businesses that can range from providing feedback on a student's portfolio to offering internships to creating an advisory board. Students can be more prepared for the workplace by learning how to run an entire project life cycle,

which includes interviewing subject matter experts. It is also important for students to be exposed to multiple industries. Technical communication does not just reside in technology companies but also in healthcare, finance, non-profit organizations, and smaller businesses. In addition, it is important for students to recognize that technical communication is multi-disciplinary and sometimes crosses over into other fields like instructional design or computer science or business. As technical communicators, we need to leverage our expertise and coordinate with other departments and programs.

SUMMARY

This study sought to gain the perspectives of a diverse group of technical communicators in order to contextualize current research on the discipline's changing identity and how to effectively prepare students for a changing job market. The interviews in this study provided diverse, current perspectives on these important questions, and the 15 respondents who provided useful insights revealed that it is a shared priority among all technical communicators to consider the field's changing identity and future. We hope this approach will incite similar and larger-scale conversations among diverse groups of technical communicators and help to produce a wider and contextualized body of research.

Though the interview approach allowed more freedom in responses and produced new patterns in perspectives among technical communicators, it is not without its limitations. The results here are by no means comprehensive or static, as the field is changing constantly. It is difficult to generalize this study based on the results of 15 participants in the US, and, therefore, the views may not represent all technical communicators. The participants shared their experiences and knowledge as technical communicators who work in similar industries, in different departments and programs at universities, and in different regions of the country. All of our practitioners worked in technology-based companies in large metropolitan areas. The BLS states that 39% of technical communicators work in "professional, scientific, and technical services" and shows a higher percentage of technical communicators working in large, metropolitan areas. What is missing here is

the experience of technical communicators in other industries, such as financial, healthcare, government, and military as well as those in non-metropolitan areas. In addition, half of the practitioners also served as adjunct faculty members or were members of university advisory boards. This is not typical amongst all technical communication practitioners.

Similarly, one program director's viewpoint of what is needed in industry depends on the particular experience of that individual, and there may be a disconnect between what is needed versus what is being taught. As these diverse answers show, there is still a divide between academics and practitioners about what topics and skills should be taught in TC programs. Two program directors emphasized the need for active lines of communication between practitioners and TC programs.

Likewise, although we used the STC website and LinkedIn searches as starting places to recruit participants, and we personally knew some of the participants, we realize this is also a limitation in the study. Ideally, we would have liked to have heard from a larger number of people in all three categories. That said, our response rate of 35.7% is higher than expected, given the time required for an interview is more than a survey.

What this study does provide, however, is an approach for considering multiple perspectives and for contextualizing the results of previous studies while providing a more in-depth picture of the field of TC. Future research should consider a more comprehensive pool of participants from a variety of industries, regions, and university departments and programs. The TC field and the roles of those in it are changing dramatically, and these interviews provide the start to a larger conversation about the direction of TC as it redefines itself.

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APPENDIX A

Interview Questions

Program Directors

- What is your educational background?
 - ✧ Major, minor, certificate?
 - ✧ Date of graduation?
 - ✧ How did you become involved in technical communication?
 - Was it part of your degree? If so, how?
 - ✧ Have you had any service/ administrative roles in your university related to tech comm? If so, what?
 - ✧ Where is Tech Comm housed in your university?
 - College?
 - Department?
 - Does your placement within university structure impact your department? If so, how?
 - ✧ Multiple scholars have debated where tech comm should be housed in universities — what is your opinion?
- How do you define *Technical Communication*?
 - ✧ Does your university define it differently?
 - ✧ Does the field define it differently than you do?
- Where do you see the field going? What is the future of technical communication?
- What kind of Tech Comm program does your university offer for undergraduates: certificates, minors, majors?
 - ✧ About how many students are in your undergraduate tech comm program(s)?
 - ✧ What are the required courses for each of these programs?
 - ✧ How does your program recruit these students?
 - ✧ Does your program offer course work for internships or co-ops?
 - ✧ What kinds of major assignments do your students do?
 - Digital/ web assignments?
 - Traditional manual/ procedures?
 - White papers?
 - Proposals?
 - Job materials?
- Can you provide us the names of some of your elective courses?
- What kind of Tech Comm program does your university offer for graduate students?
 - ✧ Do your graduate programs offer specialities? What kind?
- What kind of jobs (job titles) do your undergraduates get?
- What kinds of jobs do your graduates get?
- Upon graduating, is there a specific skill set your graduates have?
 - ✧ Do you have a Capstone course?
- Does your program teach any specific software to undergraduates or graduates? Are there specific softwares that they are required to know?
- How do you think departments can best prepare students to enter the changing workforce in tech comm?

Practitioners

- What is your educational background?
- Tell me about your current role.
- Have you had other roles in your company?

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- Do you consider yourself a technical communicator? How does the technical writing process in your company work? Are there multiple stages/ departments involved?
- How would you define that term?
- Define technical communication/technical writing in your company. If you have worked in other companies, it is the same in every company?
- When did you first learn about this field?
- What are the changes you've seen in the field?
- Do you belong to any professional organizations in Tech Comm?
- Do you participate in professional development?
- What kinds of software do you use in your current role?
- How does the technical writing process in your company work? Are there multiple stages/ departments involved?
 - ✧ What kinds of activities, projects would they work on?
- In your experience, are new graduates in technical communication well-prepared to enter the workforce?
 - ✧ Why/ why not?
- Does your company regularly hire tech comm majors, minors, or certificate holders? How often?
 - ✧ What percentage?
 - ✧ What other majors do you hire for writing jobs?
 - Do you see a difference in terms of a graduate's ability to write based on his/her major?
- What programs should graduates know to be marketable for a job in your company?
- What kinds of skills are required for your current role in your company--hard skills? Soft skills?
- What do you wish you had known when you were starting your career?
- What kinds of writing do you practice daily? Weekly? Yearly?
- Was there a class or skill in college you found to be useful for your career now? If yes, what was it?
- On a scale from 1-10 (10 being most important), how important is the ability to write well to get a job in your company?
- On a scale from 1-10 (10 being most important), how important is the ability to communicate orally to get a job in your company?
- On a scale from 1-10 (10 being most important), how important is the ability to for new graduates to use graphic design in your company?

Recent Graduates

- What is your educational background?
 - ✧ Major, minor, certificate?
 - ✧ Date of graduation?
 - ✧ What courses did you take?
 - ✧ What courses are most memorable?
 - ✧ What courses have proven to be practical/ useful for you? Why?
 - ✧ Are there any courses you took for your tech comm [*major, minor, certificate*] that you feel were NOT useful? Which ones? Why/ why not?
 - ✧ Are there courses you took *outside of* tech comm that have proven practical or useful for you? Which ones? Why?
 - ✧ Did you learn any software as part of your undergraduate program? If so, what?
 - ✧ What kinds of skills do you believe you took away from your undergraduate work?
 - ✧ Do you feel that your program adequately prepared you to join the workforce in technical communication? Why/ why not?
 - ✧ Is there anything you wish you had learned as a student that you had to learn on the job?
- How did you first learn about this field?

- How do you define *Technical Communication*?
- How long did it take for you to land your first job?
 - ✧ What kind of on-the-job training did you require?
- Tell me about your current role in your company. — job title & company
 - ✧ What do you do on a daily basis?
 - ✧ What aspects of your education do you find most useful in what you do on a daily basis?
 - ✧ Do you enjoy your job? Why/ why not?
 - ✧ How much of your job is *writing*?
 - What kinds of writing do you do?
 - How much of your job is “traditional” tech writing and how much is related to digital content, marketing, coding, etc.?
- Have you seen any changes in the field since you graduated?
- Do you belong to any professional organizations?
- Do you participate in professional development? Which ones? If not, why not?
- Does your company offer incentives or reimbursements for professional development?
- What are your prospects for advancements in your company?
- What do you see yourself doing in 10 years?

APPENDIX B

Definition of Technical Communication

Program Directors

“An ancient practice of communication that attempts to make change--to make an effective change--in the world.”

“Technical communication is a field of study that attempts to relate to sometimes non-technical and sometimes extra-disciplinary audiences. Primary activity that relates words, users, and technology that allows the user to relate. Bringing together of technology, words, and people.”

“As someone who practiced tech comm, I didn’t do traditional tech comm that STC people did. My definition was broader but was very narrow in terms of defining what “technical” meant. While technical is also related to technology, it is often related to a specific subject matter. I was really glad when the STC, without a lot of fanfare, shifted the definition on their website. It is much broader. They use technology as the emphasis, but technology is more broadly defined. I like the STC’s definition.”

“Oyyy...this is an interesting question because it was the centerpiece of a course I taught last spring. In its most simple definition, it’s making specialized information available to people who need to use it. Those people who need to use it could range from children to software engineers to PhDs in Physics. We used to joke when I was working in industry: we had one software product that was developed by the department, and it was the maintenance system. Where all the maintenance work was entered and tracked. It was very complex in terms of the user base. We used to joke that the users of this product ranged from PhDs in nuclear Physics to the people who deliver the Port-a-Johns. Literally that was true.

Within Technical Communication these days, we often think of users as computer software users. We are, I think, becoming more aware of other areas of practice within the field. A lot of our graduates from [university 2] were going into jobs in social media, and of course that’s very different from what I started out doing in industry. There’s a lot less emphasis in writing—for good or bad. I had a lot of undergraduate students who didn’t like to write, and I said I don’t like to write either: it’s hard work. But it’s something that you gotta do no matter what you do. You’re going to be writing. You may not be writing software user guides, but you’re going to be writing proposals, you’re going to be writing memos to management... Doing all kinds of writing that may not go to people you see as your end users but may go to other people.

I always used to say...we had a course—actually 2 courses—that all the students in the school of engineering had to take: including our majors. I used to tell them that your boss’s boss who is going to approve the raises you get

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is going to know you primarily in two ways: first of all, by the reports that you write and second by the presentations you give. The skill you have as a writer and the skill you have as a presenter are the two most important things you are going to be evaluated on by the person who decides what raise you will get. I am riding my hobby horse here as someone who has primarily been a writer and editor. I think those skills are extremely important. That's not to say that other skills aren't. I think that particularly in today's political world we see the influence of social media—for good or bad—is pervasive. So, I'm not saying that those jobs are not important because they are. And perhaps becoming more so every day. But the ability to write convincingly and well and the ability to use various kinds of media are very important skills, and I hate to see students neglect the old-fashioned ones for the bright shiny objects. The bright, shiny objects are important too, but so is writing, editing, and presenting."

Practitioners

"That's an interesting question. I can tell you what it is not. It is not writing. Technical communication spans all methods of communication whether that's verbal, visual, chat in Instant Messenger, email communication, or anything in-between. Technical communicators have done themselves a big disservice by defining themselves with writing. Majority of my time is spent engaging and interacting with people and the ability to translate between a highly technical audience to a moderately technical audience to a non-technical audience."

"It focuses on the communication piece. Tech comm is the connecting factor between several departments and the audience (maybe external, maybe not). It's hard to define. A few years ago, I would have defined it as a writing role, but it's more communication and constantly researching, pulling information, testing functionality, and looking for gaps. I consider all of that to be technical communication."

"I see a technical communicator as a 'user advocate' and does a lot more than write instruction. They're there to make the company easier to work with and to make the company more money."

"Somebody who communicates in plain English technical aspects to an end user."

Recent Graduates

"I would say—this is also in respect to my English background—a marriage of technology and writing. The technique of how you're communicating. So techniques for different scenarios that you're going to need to communicate in...boiling down your essential message and then how to display that across different media forms...I know this isn't the traditional definition...in the technique of communication, I would say it's also the technology you use to communicate...It's like untangling spaghetti: where do you start. There's so many different things...I would also say that there's a difference between technical communication and technical writing. Tech writing seems like the writing is more important than the design, and I don't think that's true."

"Well, I have had a lot of time to figure this out. My gist that I give to people is that I get a lot of technical information and make it organized, give it structure, and make it where anybody can understand...depending on my audience: sometimes I'm talking to a layman and sometimes to a highly technical person. But that's what I say, I take things that are complicated and make them less complicated. That's what I tell my grandma when she asks what I do..."

"Sort of delivering to a user/reader however they are getting the information how to do a task."

Delivering people the information that they need, how they need it. Regardless of how technical it is. Basically, I think a lot of it is teaching somebody something: what something is, how to do it, etc."

"Conveying complicated information and putting simply so anyone and everyone can understand how to do something, how to read something, perform a task, assemble something...encompassing term- more about creating content with graphics and also explanation as well. Editing took a back burner. Understanding a concept and portraying it through graphics and text."

"Technical communication takes something complex (difficult or extensive) and communicates in a new way for an audience to understand."

A Review on Error-Inclusive Approaches to Software Documentation and Training

By Hans van der Meij and Marie-Louise Flacke

Abstract

Purpose: There is a need for error information in software documentation and training. Audits show that this need is typically not sufficiently addressed. This article addresses the issues of how and why errors should be part of design.

Method: A literature review summarizes what research has to say about the design and effectiveness of error-inclusive software documentation and training.

Results: Three main types of error-inclusive approaches are distinguished: (1) In an error-tolerant approach, error prevention is important, as is the presence of error information when needed. Minimalism is one representation of this approach. Minimalist theory proposes a training wheels technique to prevent error and just-in-time error information to support error management. (2) In an error-induced approach, the training arrangement almost guarantees that users engage in error handling during training. Its best-known representation is Error Management Training (EMT). Key features of EMT are the arrangement of an exploratory mode of task engagement during training and the communication that errors are opportunities for learning. (3) In an error-guided training (GET) approach, regular and corrective instructions are mixed. The main idea is that users benefit from instructions for task completion that alternate between expositions of correct and incorrect solution methods. Research on error-inclusive approaches shows that the training tends to be slightly less efficient but that, after training, users are better at performing regular tasks and have learned more error-management skills.

Conclusion: An error-inclusive approach to software documentation and training yields better learning outcomes and moderates user frustration with errors.

Keywords: error-inclusive; error management; software documentation and training

Practitioner's Takeaway

- Software documentation and training tends to focus too much on an error-exclusive approach.
- Three types of error-inclusive approaches (error-tolerant, error-induced, and error-guided) provide food for thought on why and how errors can be treated in software documentation and training.
- Research generally reveals that an error-inclusive approach yields higher learning outcomes and contributes to a more positive user attitude toward error.

Including Error Information in Documentation and Training

INTRODUCTION

People are prone to make mistakes. No matter how carefully they intend to behave, errors are a natural by-product of active exploration and learning (Katz-Navon, Naveh, & Stern, 2009). By *errors*, we mean unintended deviations from plans, goals, or adequate feedback processes, as well as incorrect actions that result from lack of knowledge. In contrast, the term *troubleshooting*, with which error management is easily conflated, refers to software abnormalities such as bugs, incompatibilities, or component failures (see Farkas, 2010, 2011).

The abundant occurrence of error should induce technical communicators to design error-inclusive software documentation and training. However, error-exclusive approaches have dominated the field. Two consecutive audits of software manuals, covering a production period from 1980 until 2008, illustrate this. In 1996, van der Meij conducted a systematic analysis of error information in software documentation. The study showed that error information appeared infrequently, as one-third of the manuals included no error support at all. Only 19% of the tables of content and 31% of the indexes included a keyword that signaled the location of error information in the manual (van der Meij, 1996). About ten years later, van der Meij, Karreman, and Steehouder (2009) published a follow-up study that showed modest improvements for error presence and accessibility. In this study 21% of the table of contents and 38% of the indexes of the manuals included a keyword that referred to the presence of error information. In short, these inventories signaled a lack of widespread adoption of an error-inclusive approach in software documentation and training.

An important argument given in favor of an error-exclusive approach is that it best serves the user's main goal, which is to accomplish meaningful tasks. Users should be able to spend most of their time learning how to effectively accomplish regular tasks rather than on error-handling. To best use what little time the user is willing to spend on documentation and training, the information that is presented must concentrate on regular tasks, the argument goes. Research has investigated the validity of this argument by looking at training time, regular task performance, and error-management. In these studies, documentation with or

without error information is compared. The following summarizes the outcomes.

Some studies have reported an increase in training time for an error-inclusive approach (McLaren, van Gog, Ganoe, & Karabinos, 2016), but other studies have found no differences (e.g., Kopp, Stark, & Fischer, 2008; Struve & Wandke, 2009). In addition, studies have generally reported more task completion during training for error-exclusive approaches, but sometimes error-inclusive approaches have yielded equal outcomes for task performances during training (McLaren et al., 2016). In contrast, studies have generally reported higher learning outcomes and better task performances after training for error-inclusive approaches (e.g., Adams et al., 2014; Chillarege, Nordstrom, & Williams, 2003; Durkin & Rittle-Johnson, 2012; Gardner & Rich, 2014; Heimbeck, Frese, Sonnentag, & Keith, 2003; Wood, Kakebeeke, Debowski, & Frese, 2000). Finally, error-inclusive approaches have been found to better address the users' emotional states in dealing with error, and they have reported increased knowledge of error and improved error correction skills more than error-exclusive approaches to documentation and training (e.g., Cattaneo & Boldrini, 2017; Durkin & Rittle-Johnson, 2012; Heemsoth & Heinze, 2014; Lazonder & van der Meij, 1995).

In short, the literature provides ample support for adopting an error-inclusive approach to software documentation and training. This article concentrates on the three main types of error-inclusive approaches that exist in that field, namely error-tolerant, error-induced, and error-guided approaches. The description of their rationale, design features, and findings from research should benefit technical writers who would like to create error-inclusive software documentation and training.

AN ERROR-TOLERANT APPROACH

In an error-tolerant approach, errors are seen as interfering with the user's regular task completion. Therefore, error prevention is an important aim. At the same time, it is acknowledged that not all user mistakes can or should be avoided or ignored, and, therefore, there must be some built-in support for error management. Minimalism is one theory that has consistently advocated an error-tolerant approach to software documentation and training. The minimalist

method of supporting error recognition and recovery rests on two pillars:

- the use of training wheels
- just-in-time error information

Training Wheels (TW) Design

A training wheels design makes it easier for the user to learn to use a new product. It entails blocking options from an interface, usually by greying these out. In this way, the user can work with a seemingly intact interface. The design creates consistency in the organization of the interface. This is preferable to an interface that displays only a limited set of menu options.

There are two main reasons for employing a training wheels design. One concerns meaningfulness. The restrictions block options that have no meaning for the user. The other reason is that it shields off the user from making certain errors. A training wheels design can restrict the options that the user can activate in order to prevent mistakes.

There are three main ways of reducing the systems options available to the user (Carroll, 1990). One type of interface restriction focuses on maintaining meaningfulness. Certain interface options are made unavailable because they do not make sense considering what can be done. For instance, it does not make sense to print something if no document for printing is available. Another type of interface restriction concerns blocking of advanced system functions. The main role of this variant is to ward off deep-seated options that are meaningless for the user. The third and most common way of using a training wheels design is to create an interface that prevents tricky errors from occurring. This variant blocks access to options for which error recovery is too hard for the user.

TechSmith recently introduced a variant of the training wheels design (see Figure 1). In this simplified

user interface, all the non-relevant information is represented by shape rather than greyed out. This design falls between a greyed-out and a partial menu presentation. Figure 2 illustrates a permanent variant with a training-wheels design that blocks out meaningless options. Most training wheels designs consist of a temporary scaffold that loses its relevance, or becomes obstructive, over time. Therefore, there should be fading; the removal of blocked options is best done gradually.

A limited set of studies on training wheels has been conducted, and the findings have been somewhat mixed. Table 1 presents a selected overview of the research. What is striking in the research is that training time has ranged from relatively short to relatively long in duration, and also that the number of participants involved in the training varied from meager to extensive. By and large, a training wheels design yields more successful task completion during training and reduces training time. Effects after training have been reported infrequently and mixed outcomes have been found.

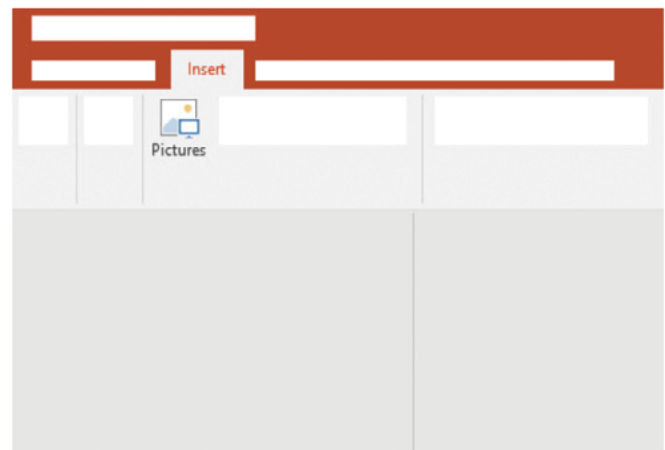


Figure 1. TechSmith's variant of a training wheels design (Boatman, 2018)

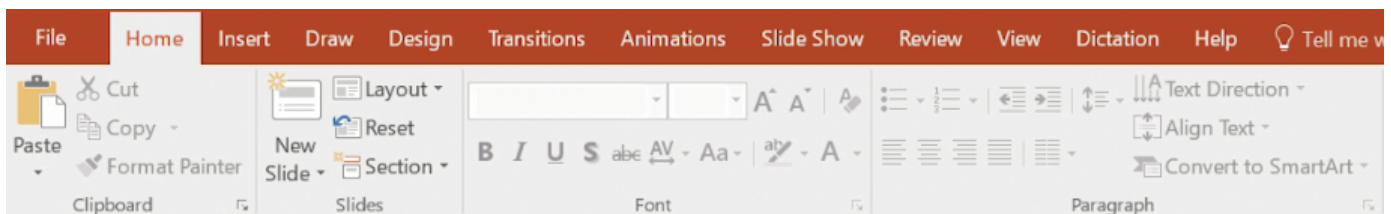


Figure 2. A training wheels design in PowerPoint 2016

Including Error Information in Documentation and Training

Table 1. Overview of (a selection of) empirical studies on the Training Wheels (TW) technology

Study	Training	Significant Findings
Carroll and Carrithers (1984)	Audience: 12 novices Software: Word Processing (Displaywriter) Duration: 2 hours	During training: TW: Faster & more succesful task performances TW: Less time spent on error handling After training: TW: Higher knowledge test score
Catrambone and Carroll (1987)	Audience: 14 novices Software: Word Processing (Displaywriter) Duration: 3 hours	During training: TW: Faster task performances After training: TW: Faster transfer performance test (due to less time on error handling)
Bannert (2000)	Audience: 72 beginners Software: Word Processing (WinWord) Duration: 16 hours	During training: TW: Faster task performances After training: Control: Higher satisfaction ratings No measures of error handling were administered
Leutner (2000), two experiments	Audience: 88 & 120 novices Software: CAD (text-based & icon-based) Duration: 30 hours	During training: TW: More succesful task performances with slow fading guidance (experiment 1) TW: More succesful task performances with moderate fading guidance (experiment 2) After training: No measures of after-training performance or knowledge were administered No measures of error handling were administered
Spannagel, Girwidz, Löthe, Zendler, and Schroeder (2008)	Audience: 172 novices Software: spreadsheet (probably Excel) Duration: 8 hours	During training: TW: Faster & more succesful task performances than P for some tasks After training: P: Faster than TW on some tasks (but completed fewer tasks overall) No measures of error handling were administered
Bruder, Blessing, and Wandke (2014)	Audience: 48 novices Hardware: mobile phones Duration: 5 hours	During training: TW: more efficient task performances After training: TW: Higher knowledge test score TW: Higher performance test score No measures of error handling were administered

Only the early studies from Carroll specifically measured error handling. These studies found the use of training wheels beneficial for error management skills development. The absence of measures on error handling is perhaps not surprising because the training wheels design is meant to prevent error. However, it seems obvious that, under a training wheels regime, errors still occur and should be within the user's grasp. In fact, a training wheels technology is arguably the best testbed for an error management training. The full potential of a training wheels technology for such training remains yet to be studied vigorously.

Takeaways of Training Wheels (TW) Design

- A training wheels design can ward off users from meaningless functionality and can prevent serious error to occur during training.
- The design of training wheels often consists of creating a lockout interface. The restrictions should, in most cases, be faded as users become more experienced.
- Research has generally shown that training wheels increase the effectiveness and efficiency of a training.
- A training wheels design seems optimally suited for error management training.

Just-In-Time (JiT) Error Information Design

A just-in-time design for error information helps the user in handling error at the best possible moment, namely, immediately after its occurrence. The design hinges on inserting error information in the documentation where the user is likely to have made a mistake. Figure 3 illustrates an application of a just-in-time presentation for error handling. Figure 4 shows the use of a just-in-time presentation for preventing errors to occur. In both examples, the error information stands out from the regular instructions so that it can easily be skipped.

The desirability of a just-in-time presentation of error information is advocated by the Four Components Model (van der Meij, Blijleven, & Jansen, 2003; van der Meij & Gellevij, 2004). There are several reasons why error information is preferably positioned in close proximity to error-prone actions (Lazonder, 1994; van der Meij & Carroll, 1998). First, a just-in-time presentation helps the user in catching an error early on. This facilitates error detection and prevents error entanglement, as there is a tendency for errors to accumulate after the user has made an initial mistake.

Second, a just-in-time presentation avoids the need for contextualization. When error information is separated from the moment, or source of the mistake, clarifying contextual information is often needed. A just-in-time presentation does not require such information and, therefore, can be shorter, and more to-the-point. Third, having a mixture of regular and just-in-time error instructions moderates the user's negative emotional state that is usually associated with error. The frequent inclusion of error information conveys the view that mistakes commonly occur and that the user is not to be blamed for committing them. The user's habituation to errors can be further enhanced by including soothing statements such as "don't worry," or "this mistake occurs regularly." A fourth argument in favor of a just-in-time presentation is that it can be conducive to error simulation. Research has revealed that a just-in-time presentation of error information also stimulates user to try out making a mistake. That is, after a flawless task performance, users occasionally (14% of all opportunities) retrace their steps and make a deliberate mistake in order to engage in error handling (Lazonder & van der Meij, 1995). Such explorations signal that the user is motivated to learn more about the software and trusts the documentation for guidance.

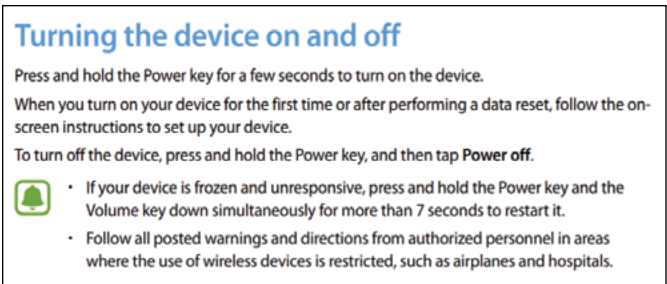


Figure 3. Just-in-time error correction information
(source: Samsung, 2015)



Figure 4. Just-in-time error prevention information
(source: MadCap, 2018)

Including Error Information in Documentation and Training

Table 2. Overview of (a selection of) empirical studies on the Just-in-Time (JiT) presentation of error information

Study	Training	Significant Findings
Lazonder and van der Meij (1994)	Audience: 42 novices Software: Word Processing (WordPerfect) Duration: 4.5 hours	After training: JiT: Self-efficacy stayed stable (vs lower in Control)
Lazonder and van der Meij (1995)	Audience: 50 novices Software: Word Processing (WordPerfect) Duration: 4.5 hours	During training: JiT: Faster task performances JiT: Faster error detection JiT: Better in error correction After training: JiT: Higher score for diagnostic & on corrective error management knowledge

Research on a just-in-time presentation of error information is rare (see Table 2). Two consecutive studies by Lazonder and van der Meij (1994, 1995) showed that a just-in-time presentation enhanced efficiency during training, kept self-efficacy high, and yielded better error management knowledge and skill after training. Pratt (2000) compared the more common “error sections” approach to a just-in-time design for online help. She found no advantages of the latter, which was ascribed to the fact that the users were advanced beginners rather than novices.

There is more empirical support for the effectiveness of a just-in-time presentation of constructive information. For instance, two experiments revealed that a just-in-time presentation of codes for creating a Computer Numerically Controlled program yielded significantly more accurate task performance and better learning outcomes than did a non-just-in-time presentation (van der Meij, 2007). Also, the influential 4C-ID Model for complex learning advocates a just-in-time presentation as an important means to convey supportive procedural information to students (van Merriënboer & Kester, 2014; van Merriënboer, Kirschner, & Kester, 2003).

Takeaways of Just-in-Time (JiT) Error Information Design

- A just-in-time presentation of error information can serve several functions: facilitate error management, prevent error entanglement, yield compact help, normalize error moods, and stimulate error exploration.

- A just-in-time design means that error information is presented immediately after a (likely) mistake.
- Research on a just-in-time presentation of error information is rare. It suggests that this design can strongly enhance error management skills. There is more support for the effectiveness of a just-in-time presentation of conceptual information.

AN ERROR-INDUCED APPROACH

In an *error-induced* approach, users are expected to become engaged in error handling during training, but this experience is neither guaranteed nor uniform across users. The view on errors is that they are important for learning and that error handling must be supported. However, this does not mean that errors should deliberately be created so that all users experience them similarly or, for that matter, that there will necessarily be any errors during training. Rather, the occurrence of errors is facilitated by the design of the documentation and training for software use. An error-induced approach applies more to instructor-led training than to documentation.

Possibly, the best-known example of an error-induced approach is Error Management Training (EMT). There are several features that characterize the EMT approach to error. One key aspect is that documentation and training revolve around an exploratory mode of task engagement. After a brief, general introduction, users are given task assignments that quickly become more difficult. There is limited support for completing them, as users are merely provided with overviews of the necessary commands

in task execution instead of step-by-step instructions for task completion. This training arrangement yields ample opportunities for users to make mistakes. Another feature is that, just as for regular tasks, users must first try to deal with an error on their own. The instructor provides help only after the user has engaged with the mistake for a limited amount of time. Another EMT feature is that the communication about errors describes these as “wonderful” opportunities for learning. Users are explicitly encouraged to make errors, to perceive them as common occurrences, and to learn from them: “Errors are great because you learn so much from them” (Keith & Frese, 2005, p. 677). EMT studies regularly provide the user with a handout containing four heuristics for dealing with error (see Figure 5). An element that is occasionally found in EMT approaches is a “forced-error session” at the end of the training. This session revolves around extremely complex tasks or presents the user flawed tasks that must be corrected.

I have made an error. Great!
There is a way to leave the error situation.
Look at the screen.
I watch what is on the screen and what is changing.

Figure 5. Error Management Training leaflet with the four error handling heuristics

An EMT approach generally has two main goals. One is to improve learning from the training. After training is completed the user should be more capable of performing trained and untrained (transfer) tasks. In addition, the user should have developed a deep-seated understanding of the program. To achieve these aims, the user should encounter errors during training because errors challenge the user’s existing knowledge and contribute to mental model development. The

Table 3. Overview of (a selection of) empirical studies on Error Management Training (EMT)

Study	Training	Significant Findings
Frese, Brodbeck, Heinbokel, Mooser, Schleiffenbaum, and Thiemann (1991)	Audience: 24 novices Software: Word Processing (WordStar) Duration: 6 hours	After training: EMT: Higher knowledge test score (free recall of commands) EMT: Better performance on difficult tasks EMT: Lower frustration (better emotional coping with error)
Dormann and Frese (1994)	Audience: 30 novices Software: Statistics (SPSS) Duration: 2 hours	After training: EMT: Better performance on average and difficult tasks No emotions were measured; No measures of error handling were recorded
Nordstrom, Wendland, and Williams (1998)	Audience: 94 novices Software: Word Processing (Word) Duration: 3 hours	During training: EMT: Higher frustration EMT: More frustration reduction over time After training: EMT: Better performance test score No measures of error handling were recorded
Chillarege, Nordstrom, and Williams (2003)	Audience: 67 novices Software: Word Processing (Word) Duration: 4 hours	During training: EMT: More requests for help After training: EMT: Better knowledge test score EMT: Better performance test score EMT: More positive attitude towards error No measures of error handling were recorded

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other main aim is that the user's stance toward error becomes more positive. Instead of perceiving errors as annoying and frustrating, EMT tries to convince the user that errors are beneficial for learning. In addition, the communication about errors should reduce the user's frustration and negative mood that usually accompanies the occurrence of error.

Most of the empirical research on EMT was conducted between 1990 and 2007, culminating in a meta-analysis in 2008 by Keith and Frese, two leading EMT researchers. Table 3 presents a few individual studies on EMT. Because a meta-analysis effectively summarizes the outcomes for EMT for a variety of users, contexts, and software programs, our description of empirical results concentrates on the findings from this article.

Keith and Frese (2008) found 24 empirical studies on EMT of which a large majority involved software training (e.g., word processors, spreadsheets, presentations). The study tested four hypotheses.

One hypothesis concerned the expectation that EMT is more effective than error-avoidant (control) approaches only in post-training tests. The rationale is that EMT users learn more about a program during training because they engage in error handling, that these insights take time to develop and therefore decrease task successes during training. This hypothesis was confirmed. There were no significant differences between conditions for task performances during training, but a significant effect favoring EMT was found on post-training tests.

Another hypothesis stated that EMT yields especially strong effects on post-training transfer (novel) tasks. The reasoning behind this hypothesis is that EMT more strongly contributes to fundamental understanding, to building a mental model, than does an error-exclusive training. The findings supported this hypothesis. The EMT condition did better than the control on trained tasks, but the effect on transfer tasks was substantially stronger.

A third hypothesis stated that the effectiveness of EMT depends on the provision of clear feedback on task performances. This hypothesis was not confirmed. EMT conditions merely tended to be stronger than the control condition for tasks with clear feedback.

The fourth hypothesis stated that the effectiveness of EMT depends on the independent contribution of both active exploration and error management instructions. This hypothesis was confirmed. In other words, EMT's support for error handling alone already significantly and positively affected task performances after training.

One feature that is notably absent in the meta-analysis is an assessment of the influence of EMT on emotional states and attitudes toward error. Early studies on EMT had reported positive effects on these measures (see Table 3). In this respect, the recent study of Steele-Johnson and Kalinoski (2014) provides further support for the view that error framing can be important both for the stance toward error and task performances. The study compared positive versus negative error framing in a software-based planning task. In positive error framing, people were encouraged to detect errors and to perceive them as a valuable contribution to learning (e.g., "it is okay to make mistakes" and "errors are a natural part of the learning process"). Positive error framing is more neutral than in EMT. Error occurrences are not praised, but just as in minimalism, such moments are described as common and to be treated as such. In negative error framing, people were also encouraged to notice errors, but they were told to avoid them, as they were a sign of inefficiency or failure to follow instructions (e.g., "you want to avoid errors at all costs" and "errors force you to work inefficiently"). The findings showed that error framing significantly affected metacognition, with positive framing yielding more activities during training such as planning and monitoring. Error framing also significantly affected self-efficacy, with positive framing contributing directly to stronger self-efficacy and indirectly to emotion control and performance success.

In summary, empirical studies contrasting EMT with error-exclusive approaches generally show that slightly fewer tasks are completed during training but that this is offset with significant advantages for cognition and motivation after training. A clear-cut advantage of EMT for the development of error management skills (i.e., detection, diagnosis, and correction) has not been sufficiently systematically investigated, however. For instance, while several studies report having presented the EMT leaflet (see Figure 4),

none of these studies gives any insights on the actual use of the four heuristics during training.

Takeaways of Error Management Training (EMT)

- An error-induced approach serves to enhance the user's fundamental understanding of a program and mitigate error frustration.
- The best-known approach to error inducement is Error Management Training (EMT).
- EMT tries to stimulate errors to occur by creating a training that confronts the user with very complex tasks in combination with limited task performance support.
- EMT provides a leaflet with four heuristics for error management.
- EMT is outspoken in its communication to users about errors. Errors are described as wonderful opportunities for learning and hence should be cherished. The communication should reduce frustration.
- A recent study on positive error framing (less outspoken than EMT) points out that communicating that errors are common can be helpful for learning and motivation.

AN ERROR-GUIDED APPROACH (GET)

In a Guided Error Training (GET), users are confronted with correct as well as incorrect solutions to task problems. The mixture serves to develop a deeper understanding of a problem. In GET, error management is built into the design; GET ensures that the user always engages with error during training. This approach lends itself best to an instructor-led training but can be applied to documentation as well.

GET follows a classic instructional design paradigm in which instructions precede task practice. The support in GET primarily comes from worked examples. A worked example is a perfect (didactic) model of task performance (e.g., Atkinson, Derry, Renkl, & Wortham, 2000; Renkl, 2014). The prototypical worked example consists of an expert explanation that accompanies step-by-step information on how to solve a problem. Initial research on worked examples concentrated on flawless task performances, but now there is an increasing tendency to combine these with worked examples of flawed solution attempts (e.g., Durkin & Rittle-Johnson, 2012; Große & Renkl, 2007;

van Gog, 2015). The error instructions in GET revolve around common errors in task performance or they address misconceptions. The user is attended to the error information by flagging the mistake, giving expert commentary, and by prompting the user to compare correct and incorrect solution methods. The latter is especially important for novices who might otherwise not benefit from the error information (e.g., Durkin & Rittle-Johnson, 2012; Struve & Wandke, 2009).

A key argument for the adoption of GET is that drawing attention to incorrect solutions stimulates the user to think more deeply about the correct solution. Doing so also helps the user to better distinguish wherein correct and incorrect solutions differ (Rohbanfard & Proteau, 2011). A related, theoretical argument is that the mixture of information helps the user to create a standard or reference point for evaluating task performance (Bandura, 1986). That is, the user is in a better position to monitor and assess an ongoing task performance. Furthermore, it has been argued that the mixture of correct and incorrect solution methods better prepares users for the tasks ahead, thus reducing the possibility that they will select the wrong solution method in future (Cattaneo & Boldrini, 2017). Finally, Dror (2011) has argued that when GET instructions revolve around errors made by other people, users are more open and accepting of errors than when they commit the errors themselves. According to misattribution theory, people are more likely to perceive errors of other people than their own (Pronin, Lin, & Ross, 2002).

GET has been applied to the accomplishment of learning objectives on diverse issues such as motor skills development, healthcare decision-making, clinical skills learning, software training, and probability problem-solving. Table 4 illustrates a few of the studies. It should be noted that two of these studies state that they fall within EMT (i.e., Gardner & Rich, 2014; Robledo et al., 2012) but are here presented as GET because of their design. For instance, the participants in the study by Robledo were instructed on four aspects of error handling (future consequences, social consequences, controllability, and criticality) by means of a description, illustration of applications, and a test with feedback.

All in all, research shows that documentation and training become more effective when they include a mixture of correct and incorrect solutions.

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Table 4. Overview of (a selection of) empirical studies on Guided Error Training (GET)

Study	Method	Significant Findings
Lorenzet, Salas, and Tannenbaum (2005)	Audience: 90 novices Software: PowerPoint Duration: 20 minutes	After training: GET: Higher performance test score GET: Higher self-efficacy (due to higher performance) No measures of error handling were recorded
Kopp, Stark, and Fischer (2008)	Audience: 153 beginners Domain: Medical diagnosis Duration: 1-2 hours	After training: GET: Higher knowledge test score, especially when there was elaborate feedback No measures of error handling were recorded
Robledo, Hester, Peterson, Barrett, Day, Hougen, and Mumford (2012)	Audience: 225 novices Domain: Creative problem-solving Duration: 4 hours	After training: GET: Lower performance test score for students trained only on future consequences errors GET: Higher performance test score for students trained only on critical errors
Durkin and Rittle-Johnson (2012)	Audience: 74 novices Domain: Mathematics Duration: 30 minutes	During training: GET: More explanatory dialogues After training: GET: Higher immediate performance test score GET: Higher delayed knowledge test score GET: Fewer misconception errors on delayed test
Gardner and Rich (2014)	Audience: 22 beginners Domain: Radiology Duration: 4 hours	After training: GET: Higher performance test score No measures of error handling were recorded
Domuracki, Wong, Olivier, and Grierson (2015)	Audience: 39 beginners Domain: Medicine Duration: 2 hours	After training: GET: Higher performance test score on errors, but only when there was feedback on accuracy

The benefits from presenting a mixture of solutions come at little extra cost, if any. The errors that are discussed in GET designs tend to originate from misconceptions or involve common mistakes. To optimize their effectiveness, erroneous examples should be accompanied by expert commentary, just as in regular worked examples.

Takeaways of Guided Error Training (GET)

- The primary aim of GET is to enhance the user's knowledge.
- GET can help the user in: developing deep-seated domain knowledge, acquiring a standard or criterion of task performance, and preparing for future tasks (including error prevention).
- GET studies often do not distinctly target emotional states arising from error handling.

CONCLUSION

There are important benefits to be gained in changing from an error-avoidant to an error-inclusive approach in documentation and training. By and large, research reveals that an error-inclusive approach helps users to: (a) build a schema or mental model that facilitates transfer and prevents them from making certain mistakes, (b) speed up error detection and reduces the risk of error entanglement, (c) increase their capacity for making a correct error diagnosis, (d) improve their chances of error recovery, and (e) reduce the negative impact of errors on their mood state and motivation (e.g., Adams et al., 2014; Kopp, Stark, Kühne-Eversmann, & Fischer, 2009; Lazonder & van der Meij, 1995; Lorenzet, Salas, & Tannenbaum, 2005; Muller, Bewes, Sharma, & Reimann, 2008).

Acknowledgement

We would like to thank the reviewers for their helpful comments.

Note: The studies shown in the Tables can have more variety in set-up and reported measures than mentioned. Only statistically significant findings are reported; also, there is a concentration on main outcomes.

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Techniques for Introducing Unfamiliar Terms

By David K. Farkas

Abstract

Purpose: This investigation identifies, classifies, and explains a wide range of techniques for introducing unfamiliar terms into a document. It enables professional writers to improve their writing. These techniques are also applicable to spoken discourse, including multimedia and interactive dialogues.

Method: The investigation employs a linguistic framework derived from applied linguistics, psycholinguistics, and eye-movement research. The framework consists of (1) the triad of term, class, and characteristic, most familiar in the context of formal definition; (2) the location of the unfamiliar term in relation to the other parts of the explanation; (3) the distinctive marking of the term, usually with quotation marks or italics; and (4) the effect of explanatory context.

Results: Certain syntactic constructions and distinctive marking assure readers that either the unfamiliar term will be explained or that an explanation of the term is not necessary for a productive reading of the text. Class-first constructions are especially versatile in introducing unfamiliar terms. Ongoing changes in reading and writing may lead to changes in the techniques used to introduce unfamiliar terms. Special cases are examined: parenthetical constructions, “so-called” as a means to introduce unfamiliar terms, the uses of extra-linear display (above-the-line and pop-up definitions), the problem of multiple instances of unfamiliar terms in lengthy documents, and the distinctive practices we find in online help systems.

Conclusion: The linguistic framework developed here contributes to our understanding of how to introduce technical terminology and can improve the work of writers.

Keywords: terminology, explanation, definition, signaling, technical text

Practitioner's Takeaway

- Linguistic analysis provides a new perspective on introducing unfamiliar terms in print and online documents.
- This new perspective extends previous thinking because it is more systematic, offers deeper-level explanations, and reveals a larger number of specific techniques that writers can add to their repertoire.
- This new perspective also makes better sense of the practice of marking unfamiliar terms with italics and quotation marks, a practice specified but never adequately explained in style manuals.
- Its emphasis on the location of the term within the sentence and passage in which it appears is especially suited to the work of professional writers.

INTRODUCTION

Technical and professional communication often requires the introduction of terminology that will be unfamiliar to some or most of the intended audience. Unfamiliar terminology appears most often in documents on technical topics intended for general audiences. Unfamiliar terminology appears less frequently in technical documents written for highly technical audiences, for here the writer and audience share a great deal of technical knowledge and vocabulary (Bramki & Williams, 1984).

There are a great many ways to introduce unfamiliar terms into English language texts; other languages have different linguistic resources (Jian, Chen, & Ko, 2013). Each language must provide a great many choices because (a) different ways of introducing an unfamiliar term have subtly different meanings and different consequences for the further reading of the text, and (b) because, in each instance, writers face particular constraints, making certain choices possible but excluding many others.

Proficient writers and especially technical communicators routinely use a wide range of techniques for introducing unfamiliar terms. But there is no reason to think that any individual writer is in command of all the techniques that he or she might find useful or has the in-depth understanding of these techniques to draw upon in problematical situations. Furthermore, this has not been an active research area, and few new insights have emerged in recent years. In the analysis that follows, I identify, explain, and classify a large number of techniques using a broad linguistic framework that provides an in-depth and systematized understanding of these techniques—some of which have never been looked at carefully. I also point out limitations in our understanding of some of these techniques, some changes that are taking place now, and some that are likely to take place in the next few decades.

In addition to supporting sophisticated professional practice, this analysis can benefit instructors teaching advanced technical communication courses and may perhaps form the basis for future research. This analysis and the techniques that derive from it apply to a wide range of document genres, including online help. The analysis and techniques apply as well to oral discourse, including speech multimedia and interactive dialogues

(e.g., Amazon's Alexa), if allowance is made for the phonology of spoken language.

The previous work most helpful to my investigation comes from the field of applied linguistics, especially from researchers who have developed pedagogies for non-native speakers learning to read, listen to, and write English. These linguists have devised numerous schemes for classifying all the ways in which unfamiliar terms can be explained when first introduced into discourse (Bramki & Williams, 1984; Flowerdew, 1992; Nation, 2013, pp. 122–126). I synthesize these classification schemes here:

1. Formal definition. The term is placed within a class and a distinguishing characteristic (“differentia”) logically excludes other members of the class. Often, but not always, formal definitions follow the formula *An X is a Y that Z*. For example: A dentist is a health care professional with a high level of postgraduate training who treats conditions and diseases of the teeth and gums. The standard formula is not followed in this re-arrangement: The health care professional with a high level of postgraduate training who treats conditions and diseases of the teeth and gums is the dentist.
2. Definition by placement within a class. For example: A dentist is a health care professional.
3. Definition by characteristic. The term is not placed within a class but is explained by one or more highly meaningful characteristics—including physical properties, composition, and function. For example: Dentists care for the teeth and gums of their patients. (This is often called an operational definition.)
4. Approximate formal definition. The explanation resembles a formal definition but, by intention, is imprecise in minor ways or does not fully meet the logical requirements of a formal definition. In certain contexts, the rigor of a formal definition is not needed. The following is an approximate formal definition because it does not logically exclude dental assistants: Dentists are the health care professionals who care for the teeth and gums of their patients.
5. Explanation by means of a synonym or paraphrase; the term's derivation (for example, its Latin roots); an antonym; or a comparison (*An X like a Y but ...*).

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6. Explanation by means of examples. For example: She was careful to eat a lot of legumes (beans, chickpeas, peanuts).
7. Explanation that arises from the context. For example, in a later section of this article, I use my newly coined term “naked introduction” (by which I mean an unfamiliar term that is introduced into discourse without any sort of helpful technique). When the term appears in that section, there is no need for any sort of explicit explanation (including the explanation I have just provided) because its meaning has been implicitly established bit by bit within that section through examples and commentary.
8. Explanation that derives from a graphic or some kind of demonstration. As an example, the simplest and most direct way to explain the oral cavity to new dental students might be a diagram.

Within the field of technical and professional communication, guidance regarding unfamiliar terms is largely limited to textbooks, usually a chapter or section on definition (Reep, 2011) or technical description (Johnson-Sheehan, 2012). Textbooks always explain formal definition and often have a contrasting category—informal definition—a broad, catch-all category encompassing synonyms and paraphrase, placement within a class, explaining by example, and explaining by characteristic. A third category, in these and other textbooks, is expanded (or extended) definition or technical description. This usually consists of a formal definition expanded through multiple means of topic development. (Note that, in this article, I switch between using “definition” and “explanation” as the context suggests, without making a strict distinction between the two words. So too with “document” and “text.”)

Style manuals (which in fact focus much more on usage than writing style) are important because they guide a wide range of professionals in preparing documents for print and online publication. Style manuals discuss technical terminology almost entirely in the context of visually marking the term by means of quotation marks, italics, and (sometimes) boldface. Their guidance, I will argue, is inadequate.

LINGUISTIC FRAMEWORK

The linguistic framework that underlies my classification and analysis of techniques for introducing unfamiliar terms follows:

1. The **triad** of term, class, and characteristic.
2. The **location** of the term in relation to the class and characteristic. Because of the importance of the location, my primary classification of techniques is this: term first, class first, and characteristic first.
3. The **distinctive visual marking** of the term.
4. The effects of **explanatory context** (Brusnighan & Folk, 2012). In many instances, there is lead-in text that precedes the explanation. Does this lead-in text help to explain the unfamiliar term, and is this explanatory context weak or strong? When the lead-in text establishes meaningful context for the explanation, the boundary between the lead-in text and the beginning of the explanation may be fuzzy.

The concepts embodied in this framework constitute a systematic perspective on introducing unfamiliar terms and enable precise and fine-grained analyses of individual techniques. The framework’s emphasis on the location of the term within the sentence and passage in which it appears is especially suited to the work of professional communicators because writers need to achieve cohesion with the sentence immediately preceding and immediately following the explanation as well as desired stylistic effects, in particular, emphasis (Halliday & Hasan, 1976).

In illustrating various ways to introduce unfamiliar terminology, I mostly use examples that are variations on Example 1:

Megatharp scritulation is a polymer technology that significantly increases the stiffness of plastics under heat and pressure by limiting the tharp density. [1]

I do so in order to make it easier for readers to compare the numerous syntactic constructions without the distraction of different content. Furthermore, this sentence employs an unfamiliar term—“megatharp scritulation”—that will be truly unfamiliar to all readers because the term is built around the meaningless morphemes “tharp” and “scrit.”

Example 1 is a standard formal definition in which the term is the first-appearing member of the triad.

The class is “polymer technology.” The characteristic is “significantly increases ... tharp density.” Note that the unfamiliar term is introduced without distinctive marking and without any lead-in text to establish context. Moderately strong context would be established if the sentence began like this: “The fabrication unit incorporates megatharp scritulation, a polymer technology that ...” Still stronger is this: “The ionization chamber of the fabrication unit incorporates megatharp scritulation, a polymer technology that ...”

Note also that I might have chosen a different morpheme as the suffix of my example sentences. For example, instead of the process morpheme “ulation,” I might have used the morpheme “ates.” In that case, the unfamiliar term “megatharp scritulation” becomes “megatharp scritulates,” a plural noun indicating a family of substances:

Megatharp scritulates are additives that significantly increase the stiffness of plastics under heat and pressure by limiting the tharp density. [2]

Finally, you will see that my numbering of the example sentences occasionally includes brief annotations for clarification.

TERM-FIRST CONSTRUCTIONS

Traditionally phrased formal definitions (An X is a Y that Z) are one kind, but only one kind, of term-first construction. Term + characteristic constructions are also prevalent. Just a single well-chosen characteristic may be sufficient for the audience’s information needs:

A macro enables computer users to automate frequently performed tasks. [3]

Often, the term appears initially at the end of a lead-in sentence, and its re-appearance at the beginning of the explanation achieves sentence-to-sentence cohesion, an aspect of the “given-new contract.” (Clark & Haviland, 1977):

The fabrication unit of the Colorado plant employs “megatharp scritulation.” Megatharp scritulation significantly increases the stiffness of plastics under heat and pressure.

[4. The characteristic is “significantly ... pressure.” The lead-in sentence provides moderately strong context.]

There are also term + class constructions:

Megatharp scritulation is an important polymer technology. [5]

As shown in the next three examples, class can vary greatly along a continuum between specificity and generality. Specific classes provide more information; general classes provide less. The level of generality of the class can extend even to content-free function words such as “something.” Note that, following accepted usage, the unfamiliar term in each of these examples has been given some form of distinctive marking (boldface, italics, quotation marks):

Megatharp scritulation is an advance in molecular-density polymer chemistry that significantly increases the stiffness of plastics under heat and pressure.

[6. The lengthy class—“an advance ... chemistry”—is specific and informative.]

Megatharp scritulation is a technology that significantly increases ...

[7. The class—“a technology”—is less specific and informative.]

“Megatharp scritulation” is something that significantly increases ...

[8. The class—“something”—is only a function word.]

The next term-first construction is an approximate formal definition:

Megatharp scritulation is an important technology that was developed as a military R&D project. [9]

Readers immediately recognize that the characteristic “developed as a military R&D project” is far too general to exclude all other members of the class “important

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technology.” Many important technologies have been developed as military R&D projects. Readers, therefore, interpret the sentence correctly as conveying two separate facts about megatharp scritulation.

DISTINCTIVE MARKING AND “ASSURANCE SIGNALS”

Style manuals regularly specify some form of distinctive marking (or “treatment”) of special words, in particular, the first occurrence of technical terms and key terms. This is the case with the *Publication Manual of the American Psychological Association* (American Psychological Association, 2009), the *Chicago Manual of Style* (University of Chicago Press, 2017), and Wikipedia’s *Manual of Style* (Wikipedia, 2018). However, the guidance they provide is inadequate.

Style manuals perform several different and somewhat conflicting functions. They aim to provide guidance that works well in each individual instance, but they also strive to promote or enforce consistency within documents and among classes of documents. They must also give writers reasonably quick answers rather than burden them with detailed discussions full of distinctions and caveats. Partly for this reason, style manuals very often use “technical” as a proxy for the subtler concept of “unfamiliar” in their guidance on the complex issue of terminology. This lack of nuance, however, proves problematic. In the *APA Publication Manual*, the most influential of our style manuals, the guidance most pertinent to unfamiliar terminology is this item in a list of uses for italics (2009, p. 105, section 4.21):

- Introduction of a new, technical, or key term or label (after a term has been used once, do not italicize it).

Note that “new” terms, in the sense of coinages, need not be technical or even difficult to understand. If we take “new” to mean unfamiliar terms (new to the intended audience), we have acceptable guidance, with the drawback that, in many syntactic constructions, italics are not needed with unfamiliar terms. The stipulation of “technical” is problematic because in a document written for a technical audience, there will be a great many technical terms (technical from the perspective of a layperson), but many of them will be entirely familiar to the audience. What, then, is the threshold for technicality? Key terms may be technical

or non-technical, familiar or unfamiliar. If followed closely, the guidance offered here will result in the very extensive use of italics for terminology. To complicate matters, the *APA Publication Manual* offers a broader guideline stating, “In general, use italics infrequently” (2009, p. 104, section 4.21).

The relevant guidance in the *Chicago Manual of Style* (2017, pp. 432–434, sections 7.49–7.53) focuses on emphasizing certain words, does not use the word “technical” or “unfamiliar” (except for “familiar” in regard to words from other languages), and is very generally phrased. The guidance in the *Wikipedia Manual of Style* is open-ended but straightforward: “The first occurrence of a technical term may be both italicized (or quoted)” (Wikipedia, 2018, “Words as words”).

The guidance provided in the style manual *Words Into Type* (Skillin & Gay, 1974, p. 218), long out of print but highly respected in its day, is better because it incorporates the idea of unfamiliar terminology:

An unusual or technical term presumably unfamiliar to the reader may be enclosed in quotation marks ... or italicized ... only the first time it is used.

Interestingly, the 1969 edition of the *Chicago Manual of Style* comes closer to the mark than the current edition because it calls attention to those technical terms that (being unfamiliar) are defined in the document (p. 143, section 6.45):

A technical term, especially when it is accompanied by its definition, is usually set in italics the first time it appears in a discussion.

We see that the close connection between distinctive marking and both technical and unfamiliar terminology has long been recognized. We also see that the guidance is problematic and, at its best, does little to increase our understanding of how to introduce unfamiliar terminology.

Experimental psychologists studying text processing and comprehension recognize distinctive marking as a form of text signaling that increases retention by indicating the importance of the term (Nevid & Lampmann, 2003; Lorch, Lorch, & Klusewitz, 1995). However, this broad, undifferentiated view of distinctive marking is of limited use to writers.

Distinctive marking is ignored by Flowerdew (1992) and mentioned only glancingly by Bramki and Williams (1984) and Nation (2013).

Farkas (1983), drawing upon the psychophysiology of eye movement during reading and appealing to the common experience of readers, proposed that the distinctive marking of unfamiliar terms sends a useful signal to the reader. It signals the writer's awareness that the term is likely to be unfamiliar to the audience and assures readers that the writer will either explain the term or has written the document so that no more explanation than what the context has supplied will be necessary for a productive reading of the document. The signal, of course, is just a signal, not a guarantee that the writer will follow through.

Example 10 illustrates the problem that distinctive marking prevents:

We are seeing the widespread adoption of megatharp scritulation. Extensive testing has shown that ...

[10. No distinctive marking is applied to "megatharp scritulation."]

Here, the writer has not signaled in any way that he is taking into account the possibility that the reader doesn't know this highly specialized term. Reading includes a process of self-aware "comprehension monitoring" (Yang, 2002) in which readers recognize when they have encountered something they do not understand. Because of the "naked" introduction of the unfamiliar term in Example 10, the reader may well wonder if he or she is about to be left behind in the ensuing discussion. Will this gap in knowledge prove troublesome? Are there likely to be more such unfamiliar terms? Perhaps the writer has misjudged the technical background of the intended audience. Perhaps the reader has picked up a document intended for an audience of which he or she is not a part. Distinctive marking prevents such moments of uncertainty by sending an "assurance signal" that the writer recognizes that the term will likely be unfamiliar to the reader. The problem is amplified in Example 11, where two highly specialized terms are introduced nakedly:

We are seeing the widespread adoption of megatharp scritulation. By limiting the tharp density, a significant increase ... [11]

Whittlesea and Williams (2001) show that unexpected vocabulary, including meaningless terms, can generate an affective response of "surprise" and "uncertainty." When style manuals prescribe distinctive marking for technical or unfamiliar terms, the reason may well be that their authors sense the momentary uncertainty that can arise from the naked introduction of such terms.

Eye-movement research confirms at the very least that problematic vocabulary disrupts the reader's eye movement. It causes longer "fixations" (moments in which a short segment of text is processed), shorter "saccades" (jumps from one short segment of text to the next), less use of parafoveal vision (a field of view that is less clear than that of the central retina) in processing upcoming text, and more "regressions" (backward movements to re-process text) (Rayner, Pollatsek, Ashby, & Clifton, 2012). One important category of problematic vocabulary is an unfamiliar term. Just, Carpenter, and Woolley (1982, p. 231) report that unfamiliar terms such as "thermoluminescence" require a large amount of extra time (in this instance 1,369 milliseconds) for processing. Furthermore, significant problems with vocabulary can trigger high-order processing that readers will be aware of (Rayner et al., 2012, p. 172).

Eye-movement researchers very often devise experiments intended to test and advance models of reading. As a result, there are many experiments in which participants respond to strangely constructed (often ambiguous) sentences that would not occur naturally. Eye-movement researchers are also interested in how children learn to read, and conduct studies in this area. But I have not found any eye-movement research that directly addresses the choices made by skilled writers in introducing unfamiliar terminology.

I myself experienced a moment of uncertainty and irritation, and I paused in my reading for at least a full second when I encountered the term "lidar," which I had never seen before, while reading this passage from the print edition of *Bloomberg Businessweek*:

Driverless cars struggle with weather because it sidelines cameras and lidar, two of their four kinds

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of sensors: Cameras are useless in heavy snow and fog, and the lasers that emanate from lidar careen wildly off snowflakes and raindrops [12. Stock, 2018, p. 27].

It is interesting that my response to the unfamiliar term was not mitigated by the article's earlier mention of two related concepts, sensors and ground-penetrating radar.

Judgments about moments of uncertainty must be made cautiously. Readers differ significantly in their technical backgrounds, reading skills, reading habits, reading histories, and even reading temperaments (Lee, 2005). Also, in each situation, the reader has particular reading goals. Furthermore, each document is unique. The reader's reaction to any passage in which an unfamiliar term is introduced will be conditioned by the genre and, to some degree, by all the text preceding the introduction of this term, including the reader's possible perception of how well the writer seems to be attending to the audience's information needs. In regard to reading goals, I will speculate that my affective response to encountering "lidar" would have included distress if I had been reading an important workplace document.

On the basis of this broad examination of the processing of unfamiliar terminology, I maintain that although there are numerous variables to consider and no experiments that bear directly upon the question, there is significant evidence that passages such as Examples 10–12 are apt to generate uncertainty in a mainstream reader who is unfamiliar with the term being introduced.

An important but very complex question is just how much physical distance there must be between an unfamiliar term and some indication that the term will be explained before at least some readers experience uncertainty. In Example 13, the repetition of the unfamiliar term in the second sentence is a cue suggesting that the term will be explained:

The fabrication unit incorporates megatharp scritulation. Megatharp scritulation significantly increases ...

[13. Should the first instance of the term be distinctively marked?]

This cue comes only two character spaces after the last letter of the term. On the other hand—as noted

above—problematic vocabulary tends to halt the reader's forward movement through the text, as do syntactic boundaries such as the end of a sentence and the beginning of the next. In constructions such as these, distinctive marking is certainly acceptable and perhaps advisable (especially to achieve consistency within a document and to follow a house style), but it is also plausible that a naked explanation would not be a problem for many readers, given the small physical distance.

Finally, distinctive marking is not needed in situations in which the context makes clear that the writer assumes the audience is unfamiliar with the term:

Although we all welcome more durable consumer products, we rarely think of the research that leads to such advances. For example, outside of the field of polymer chemistry, few people have heard of megatharp scritulation. [14]

Paradoxically, however, in situations like this, the term may well be boldfaced in adherence to a different convention: the convention that specifies applying boldface or italics to a term that will be key in a discussion.

CLASS-FIRST CONSTRUCTIONS

Many class-first constructions are both effective and versatile in introducing unfamiliar terms. They send a strong assurance signal, preclude momentary uncertainty, and generally render distinctive marking redundant. These constructions use some kind of naming word or phrase such as "called," "termed," or "known as" to connect the class to the term (usually with the indefinite article "a" or "an"), and they perform the speech act of defining (Pearson, 1998). In so doing, they make clear that the writer understands that the term is likely to be unfamiliar to the reader.

Here the general class "technology" precedes the unfamiliar term:

A technology called megatharp scritulation significantly increases the stiffness of plastics under heat and pressure.

[15. This is an approximate formal definition. Other technologies may do the same.]

Looking back to our earlier discussion of distinctive marking, we can presume that distinctive marking, like class-first constructions, also sends its assurance signal by performing the speech act of defining, although in an implicit rather than explicit manner, using typography or punctuation (specifically quotation marks) rather than words.

Not all class-first constructions indicate that the term is unfamiliar. Here, megatharp scritulation is being placed in the class of often-ignored processes. The information conveyed by the class phrase is noteworthy, but megatharp scritulation is not being introduced as an unfamiliar term:

When General Polymers first employed the often-ignored process of megatharp scritulation, the entire industry took notice. [16]

Note that there is no naming word connecting the class to megatharp scritulation and that the definite article “the” preceding the class implies that the reader is expected to know the term.

When class-first constructions do convey an assurance signal and when term-first constructions have distinctive marking, there is no need for the unfamiliar term to be explained at all. In the following example, with its focus on business, the reader doesn’t know whether the writer will take any further interest in the technology that is increasing revenue. But the reader does know that it will not be necessary to learn anything more about megatharp scritulation in order to productively read the text:

By implementing what is called megatharp scritulation, General Polymers increased revenue by 20%. Analysts forecast ... [17]

It is, however, necessary, or at least highly advisable, to use quotation marks when a familiar word is being used in a highly specialized sense (essentially, as an unfamiliar term):

They employed a pressure-control valve called a “top-hat” to try to stop the flow. [18]

The quotation marks make it immediately clear that the writer is not referring to an actual hat, and they are highly advisable even when the context or the class makes clear that a familiar word is being used in a highly specialized way.

Example 19 demonstrates how a writer can split the explanatory content, placing a significant amount of explanation before the unfamiliar term in a class phrase expanded with a relative clause (“a cost-effective technology that improves ... products”) and more explanatory content in a follow-up sentence:

They discussed a cost-effective technology that improves the durability of many consumer products. Known as megatharp scritulation, it significantly increases the stiffness of plastics under heat and pressure. [19]

One very useful function of class-first constructions and one that appears in many variations is identifying a particular discourse community to which the term belongs:

The fabrication unit incorporates a cost-effective technology that polymer chemists call megatharp scritulation. It significantly increases the stiffness of plastics under heat and pressure.

[20. The construction refers to the community of polymer chemists.]

The practice of identifying a discourse community includes constructions in which a writer indicates that the unfamiliar term is the writer’s own coinage: “An approach that I call megatharp scritonics.” [21].

Often, there is no good reason to burden readers with an unfamiliar term that is not going to appear again in the document. Class-first constructions enable the writer to explain the concept while omitting the term:

They developed a polymer technology that increases the stiffness of plastics under heat and pressure. [22]

One potential pitfall is using an overly specific class word or phrase (in this case, “tharp-density technology”) that will itself be unfamiliar to much of the audience:

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The prototype employs a tharp-density technology known as megatharp scritulation to increase the stiffness of plastics. [23]

While class-first constructions add extra verbiage, we see that they are highly versatile. Finally, class-first constructions are often used in oral discourse to provide a stronger and more reliable assurance signal than is possible with pitch accent (the oral equivalent of distinctive marking) (Selkirk, 2003). I have many times heard both broadcasting professionals and casual speakers employ the phrase “something called a” before using a term that they think will be unfamiliar to the audience.

CHARACTERISTIC-FIRST CONSTRUCTIONS

Very often, the need for cohesion or the desire for emphasis leads writers to choose a construction that will place the characteristic before the unfamiliar term. The thoughtfully discussed examples of characteristic-first constructions offered long ago by Britton (1964) remain interesting and useful today. Characteristic-first constructions do not require an assurance signal because the reader has read the explanation (or much of the explanation) before encountering the term. One could say that with characteristic-first constructions there are no unfamiliar terms (and no naked explanations) because the terms have been made familiar before being introduced.

Here is a straightforward characteristic + term construction:

Plastics can be made stiffer under heat and pressure using megatharp scritulation.

[24. The characteristic states what megatharp scritulation does.]

This next example adds an informative class phrase (“a cost-effective technology”):

The stiffness of plastics under heat and pressure can be significantly increased using a cost-effective technology known as *megatharp scritulation*.

[25. Even when it is not necessary, writers may still favor distinctive marking.]

It is also possible to place the class last in a characteristic-first construction. This might be done if the writer wants to focus attention on the class phrase (in this case, “an exciting application of the ... technology”) rather than the term:

Plastics can be made stiffer under heat and pressure using megatharp scritulation, an exciting application of the often-ignored “tharp-density” technology.

[26. The unfamiliar term appears after the characteristic but before the class.]

Note that distinctive marking has been applied to “tharp density,” another unfamiliar term that is part of the lengthy class phrase. This is because the characteristic-first construction explains megatharp scritulation but not tharp density.

PROSPECTS FOR DISTINCTIVE MARKING AND ASSURANCE SIGNALS

Awareness of the issues surrounding distinctive marking and assurance signals enables writers to make their own decisions about whether and how they will employ distinctive marking in term-first constructions, class-first constructions, and characteristic-first constructions. A writer might judge a naked explanation to be acceptable if the context partly explains the term or signals that it will be explained or if the term's constituent morphemes are meaningful and/or if the beginning of the explanation comes a very short distance after the term. A naked explanation eliminates the extra verbiage of a class-first construction or the extra visual complexity of distinctive marking, thereby giving the document a cleaner, more contemporary look. If, however, the writer chooses to send an assurance signal, the writer can choose between the lighter touch of distinctive marking or the stronger, more reliable verbal signal of a class-first construction—or can use both.

Looking to the future, we may see a smaller role for distinctive marking in the introduction of unfamiliar terms. There is a broad trend toward less punctuation and less use of distinctive marking, especially for expository writing on the Internet, and there are also more pervasive changes taking place in reading and literacy (Liu, 2005), including, of course, social media.

Future readers, raised on the Internet and on the shortcut language of social media and texting (with their very different uses of distinctive marking), may not be able to reliably interpret distinctive marking when used for unfamiliar terminology.

If distinctive marking fades as a means to introduce unfamiliar terms, writers may compensate by making more use of class-first constructions, characteristic-first constructions, and other verbal techniques when they want to reliably indicate that an unfamiliar term is being introduced. Alternatively, writing practice may increasingly permit the naked introduction of unfamiliar terms. Another factor, discussed below, is that today's readers can often display the definitions of unfamiliar words through extra-linear means: dictionary look-up, above-the-line synonyms, and pop-ups. In response to changes in literacy and text-display technology, style manuals may eventually rely less on distinctive marking in their guidance on introducing unfamiliar terms. One reason I have long maintained an interest in unfamiliar terminology is that with the never-ending changes in language use and technologies that pertain to writing and reading, established answers are never final.

SPECIAL CASES AND CAUTIONS

Here is further discussion that includes some additional techniques for introducing unfamiliar terms. In some cases, the basis of my argument lies somewhat outside the linguistic framework presented at the beginning of this investigation.

Parenthetical Constructions

Parentheses (along with commas and dashes) are often used to briefly explain unfamiliar terms, most often with a more familiar approximation that may be a true synonym, a paraphrase, or a class that functions much like a synonym. In the next three examples, the approximation is the class phrase “statistical technique.” In Example 27, the appearance of the unfamiliar term within parentheses indicates that the unfamiliar term is a non-essential item of information that the writer has included only for the benefit of the more technical part of the audience:

They employed a statistical technique (probability distribution) to assess ...

[27. The class phrase is “statistical technique.”]

In Example 28, “a statistical technique,” appearing within parentheses, explains the unfamiliar term “probability distribution” but does not reduce its importance in the document:

They employed probability distribution (a statistical technique) to assess ... [28]

When the term precedes the explanation in a parenthetical construction (including those that use dashes), the explanation will appear just a few character spaces after the term. Even so, a writer may choose to send a strong assurance signal by applying distinctive marking to the term:

They employed *probability distribution*—a statistical technique—to assess ... [29]

“So-Called”

You must take special care with “so-called.” This phrase has traditionally been used to express an ironic or skeptical stance toward a word and, by extension, the people who created or use it. A famous instance is Merle Haggard’s “Keep your retirement and your ‘so-called’ Social Security” [30. Haggard & Holloway, 1981]. Increasingly, however, “so-called” is being used straightforwardly as a verbal technique for introducing an unfamiliar term, somewhat akin to the class-first constructions seen above:

To be sure, there are different types of bull markets—so-called cyclical bulls that tend to run alongside a single economic expansion, as well as so-called secular bull markets that may last for more than a decade ... [31. Lim, 2012]

We see that the phrase “so-called” is undergoing a process of change. Therefore, writers who embrace the newer use of “so-called” as one more means to introduce an unfamiliar term must ensure that the context does not allow readers to mistakenly infer an ironic or skeptical intention.

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Extra-Linear Display

Text-display technology often makes it possible for today's readers to view definitions that are not formatted as traditional expository prose but rather are displayed outside the lines of text ("extra linearly") when the reader performs an action (such as selecting or clicking) or turns on a feature. The dictionary look-up extensions available in Web browsers enable readers to select a word and then view a pop-up definition of that word. The Word Wise feature in the Kindle eBook reader, when turned on, displays above-the-line synonyms or paraphrases for many words. (Other eBook readers also provide extra-linear definitions.)

Vanguard.com (Vanguard Group, 2018) allows readers to display in pop-up windows custom-authored definitions of financial terms, terms that are distinctively marked with dotted underlining. Such pop-up definitions could be implemented by help authors in Microsoft's WinHelp (.hlp) format of the 1990s (Simon, 1995). Note that dotted underlining (or some comparable visual cue) sends an assurance signal because the reader knows that a definition is available for the term.

While extra-linear definitions are certainly useful, they have significant drawbacks. When a reader decides to display a pop-up definition on Vanguard.com or a dictionary entry in a Web browser, the action (or actions) the reader must perform interrupts the process of reading. Kindle's above-the-line synonyms and paraphrases almost certainly impede reading because they add significant visual clutter. Another limitation of the dictionary entries in browsers and the above-the-line synonyms and paraphrases in Kindle is that they are stock definitions stored in a dictionary file, not custom-authored definitions crafted by the writer to fit the particular context. Finally, readers need to learn that these features exist and must choose to make use of them.

Despite these drawbacks, extra-linear definitions serve as a means to broaden a document's audience to include readers who have less domain-specific background knowledge than those for whom the document was primarily designed. For example, Vanguard, we can assume, believes that most visitors to Vanguard.com know the meaning of "tax-deferred," and so, to avoid burdening these individuals with an unwanted definition, the term is marked with dotted underlining so that the definition will be displayed only by the readers who want it. Along similar lines, authors

of Kindle-published books can have some confidence that readers who are not well prepared to read their book will turn on Word Wise (if implemented for that title), and those who write for the Web can at least hope that less prepared readers will use the dictionary look-up feature.

Multiple Instances of a Term

In the case of book-length documents, it may be desirable for writers to depart from the general principle of defining unfamiliar terms the first time—but only the first time—they appear. Readers do not remember everything they've read. Therefore, if the unfamiliar term re-appears after many pages, the writer may decide to treat this subsequent occurrence as though the term were being introduced for the first time. Furthermore, readers often jump around in lengthy documents, both print and online. We see then that the possibility of forgetting an explanation and the possibility of non-linear reading are two reasons why writers should have a strategy for the multiple occurrences of unfamiliar terms in a lengthy print or online document. In appropriate online environments, extra-linear definitions might well be central to such a strategy.

Explaining Concepts in Online Help Systems

Online help systems must, at times, explain an unfamiliar computer concept that is central to a particular feature. The explanation may appear in the introductory paragraph of a procedure topic or in an overview topic. Microsoft Word's overview topic "Create or run a macro" begins with a double definition of macros:

In Word, you can automate frequently used tasks by creating and running macros. A macro is a series of commands and instructions that you group together as a single command to accomplish a task automatically. [32. Microsoft Corporation, 2018a]

First, we see a definition by characteristic in which the characteristic is the purpose of macros (you can automate frequently used tasks). In this definition by characteristic, the phrase "you can" places the characteristic before the unfamiliar term. (Compare this to Example 3, in which "macro" appears before the defining characteristic.) Then, a standard term-first

formal definition (“A macro is a ...”) adds more detail to the initial definition by characteristic.

What is distinctive about technical terminology in online help systems is that many computer terms (including those that appear in the steps of procedures) are introduced nakedly within help topics so as not to burden users with unneeded conceptual information. These are likely to be terms of secondary importance within the topic as well as terms we can call “semi-familiar,” meaning terms that will be familiar to most—but not all—of the users who are reading that particular help topic. For example, in Microsoft Word’s procedure topic “Make a macro available to all documents” there is mention—but no explanation—of the Normal.dotm template (Microsoft Corporation, 2018b). This practice of nakedly introduced terminology is viable—though not ideal—because help systems have rich features for navigation among the topics (hyperlinks, search, etc.), and so the user who doesn’t know about templates and the Normal.dotm file can navigate without much difficulty to help topics that explain these concepts. Even so, the kind of pop-up definitions implemented in Vanguard.com and WinHelp provide a very convenient means of defining secondary and semi-familiar terms.

CONCLUSION

This investigation employs a linguistic framework derived from (1) the triad of term, class, and characteristic; (2) the location of the term in the explanation; (3) the possibility of distinctive marking; and (4) the context. With this framework, it is possible to identify, explain, and systematize a large number of techniques for introducing unfamiliar terms. Professional writers and professionals who write very likely do not have all these techniques in their current repertoire and very likely can benefit from this classification and discussion.

This investigation also points to shortcomings in our understanding of distinctive marking and the function of assurance signals, and it points to changes in reading and writing we need to be looking out for. Because this investigation has moved quickly over many specific topics, it could very usefully be extended by tightly focused corpus-based studies (McEnery & Hardie, 2012), eye-movement studies, and other approaches as well.

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Developing Writers in Higher Education: A Longitudinal Study

Ann Ruggles Gere, ed. 2019. Ann Arbor, MI: University of Michigan Press. [ISBN 978-0-472-03738-4. 370 pages, including index. US\$44.95 (softcover).]



Researchers, practitioners, and anyone interested in how people learn to write will find something of interest in *Developing Writers in Higher Education: A Longitudinal Study*. Besides the book, of particular interest from the book is the friendly, well-executed companion website at <https://www.developingwritersbook.org/> where you can find out

what 169 students can tell you about writing. The site organizes its content around two revealing statements.

- Writing involves choices.
- Writing is social.

Gere describes her work in *Developing Writers in Higher Education* by considering how students learn to write so they can write effectively when they enter the work force. The students providing input now work as a software engineer at Google, child psychiatrist, and stay-at-home writer, to name a few examples appearing on the website. The students' observations shed light on the focus of college student development and how students learn to write.

- *Developing Writers in Higher Education* reflects the work done during a study of the experiences of 169 University of Michigan undergraduates. The book draws on an analysis of 322 surveys, 131 interviews, 2406 pieces of student writing, and related case studies. Some topics covered include how students react to feedback, students' concepts of style and voice, and students' understanding of digital writing. Two conclusions that Gere's students made were: "...it is apparent that the largest impact on students' writing development is not simply whether they choose to use instructor feedback, but how they engage with that feedback" (p. 50).
- "...one powerful way to promote students' development as writers is to teach them to seek out and critically engage with instructor feedback" (p. 69).

Here is what one student said about feedback (p. 34):

"I met with my [instructor], and she pushed me to reorganize my entire essay—completely switch up the structure. I had never done that. I felt like

I was pouring my essay into a food processor and dumping the chopped-up bits onto a new page, trying earnestly to make sense of it all... Although I was initially resistant to rearranging my essay, pushing myself to try something completely different really strengthened my writing."

As you can see, it is fun to see what students say about learning to write.

Jeanette Evans

Jeanette Evans is an STC Associate Fellow; active in the NEO community, currently serving on the newsletter committee; and is co-author of an Intercom column on emerging technologies in education. She holds an MS in technical communication management from Mercer University.

How to Market Books

Alison Baverstock and Susannah Bowen. 2019. 6th edition. Oxford, England: Routledge. [ISBN 978-1-138-59725-9. 482 pages, including index. \$53.95 (softcover).]



How to Market Books is a feast—a banquet—a book filled with little gems. But, as with most gems, you sometimes must dig through lots of earth to find them. A key question about "any" book is: Who is the audience? In our case, this is people working for publishing houses. Still, it contains important information like

market research and promotion (including copywriting), book formats and book design, and, of course, the reader that authors need to know.

Alison Baverstock and Susannah Bowen point out that "publishing companies used to be run by editors; today they are largely run by marketers" (p. 7). This reflects the idea that salespeople had a better idea than editors about which books would sell best. As a writer, you need to know such things since a writer's job now is working more with the publisher (doing radio interviews, book signings).

How to Market Books examines key questions like: Where do readers first hear about books they buy? What media sources are most influential (p. 66)? Media sources include things like online forums, NPR (National Public Radio), interviews, and YouTube exposure ("If you can get a YouTuber or blogger interested in your product,

it can literally mean millions of views”) [p. 21]. Media coverage is important for almost “every” kind of reader, whether they’re buyers in bookshops or academics (think journal reviews). Every community has its own on- and offline forums.

The authors emphasize that all printed media now have accompanying digital content. And that digital media is more often overshadowing print (p. 248); for example, *The Atlantic*, *New Yorker*, *New York Review of Books*, and *Smithsonian*.

There are some interesting notes on book formats. Hardbacks are the preferred format for a book with high potential, before bringing out a mass marketing edition (p. 26). It’s also the best format for getting books reviewed by the media. As an aside, they’re also more suitable as gifts—they’re much more memorable: The authors mention a bride who asked all the wedding guests to give the happy couple a copy of their favorite book with an inscription from the giver (p. 26).

As for paperbacks, some replicate the hardbacks but with a soft cover (trade paperback). And then, mass market paperbacks that are cheaper, lighter, and normally of lower paper quality. And finally, ebooks; readable on mobile phones and tablets. Surprisingly, it’s older readers who tend to buy more ebooks—perhaps because eyesight gets poorer with age, and devices let readers increase the font size (p. 62). While heavy book-buyers buy in all formats, they increasingly choose audiobooks (p. 64).

A few quibbles: The type size is a bit small. I realize it’s already a big book (almost 500 pages). Still, squinting makes things less inviting. Also, in places, the material tends to be Anglo- and Euro-centric. *How to Market Books* needs more U.S. material if the authors want to appeal to American readers (pp. 60 ff).

Steven Darian

Steven Darian is an STC Fellow and retired from Rutgers University, where he taught business and technical writing as well as other language-related courses. He also taught management and business communications courses in five countries. Steven’s book, *Technique in Nonfiction: The Tools of the Trade* (2019), is now in its 2nd edition.

The Copyeditor’s Handbook and Workbook: The Complete Set

Amy Einsohn, Marilyn Schwartz, and Erika Búky. 2019. 4th ed. Oakland, CA: University of California Press. [ISBN 978-0-520-30667-7. 880 pages, including index. US\$59.95 (softcover).]



Since it first appeared in 2000, *The Copyeditor’s Handbook* has established itself as an indispensable classic. Filled with sound advice and useful tips on every aspect of copyediting, it has long been

the go-to guide for both newbies breaking into the profession and experienced hands seeking to expand their skills.

While this new edition preserves everything that was great about earlier editions, it has been thoroughly expanded and updated to meet the needs of those working in today’s ever evolving copyediting and publishing environment. Enough new material was developed by an expanded editorial team to warrant issuing the revised work as a two-volume set, *The Copyeditor’s Handbook* and *The Copyeditor’s Workbook*. While the two books may be purchased separately, they are closely integrated and really work best as a set. Even those who have an earlier edition of the *Handbook* will want to upgrade to the complete set.

Like earlier editions, the *Handbook* starts with a broad overview of what copyeditors do and discusses the profession’s roles, responsibilities, and protocols. It moves on to give thorough coverage to the thousands of details the copyeditor must attend to—markup, adherence to house style, grammar and usage, and the rest—and rounds off by discussing numerous issues not covered elsewhere: accessibility, plain language compliance, global English, and much more.

Throughout, the work gives best-practices advice where judgment calls are required, and on the soft skills of writing queries and balancing the sometimes-conflicting viewpoints of authors and publishers.

The *Handbook* cites the recommendations of the latest style and usage guides and, where needed, discusses the differences in those recommendations. While continuing to cover traditional hard-copy markup, it fully supports the newer processes of on-screen editing. It also covers the tremendous growth in resources such as online dictionaries that are now available to copyeditors to aid them in their work.

The *Workbook* contains forty skill-building exercises, chosen to help you hone your editorial skills and judgment over a full range of tasks from catching simple errors to straightening out tortured syntax to enforcing bias-free language. The answer keys are detailed, and fully commented to provide the reasoning behind the choices made; it is much as if you were looking over a shoulder and listening to the thought processes of an experienced copyeditor as she does her work. The exercises may be done as hard copy but are also available as downloadable files so they can be done onscreen.

The work is very well indexed, making certain items easy to locate. The work also includes a rich collection of useful back matter—glossaries of copyediting and grammar terms, and an extensive annotated bibliography of useful references to style manuals, dictionaries, usage guides, organizations, and more. Working copyeditors will especially appreciate the handy customizable checklist of common editorial choices for recording style preferences for use with their projects.

Patrick Lufkin

Patrick Lufkin is an STC Fellow with experience in computer documentation, newsletter production, and public relations. He reads widely in science, history, and current affairs, as well as on writing and editing. He chairs the Gordon Scholarship for technical communication and co-chairs the Northern California technical communication competition.

Talk to Me: How to Ask Better Questions, Get Better Answers, and Interview Anyone Like A Pro

Dean Nelson. 2019. New York, NY: HarperPerennial. [ISBN 978-0-06-282520-9. 380 pages. US\$16.99 (softcover).]



Dean Nelson takes the reader through the entire interview process, from deciding whom to interview to following up after writing your article to ensure accurate quotes. In between, we learn about preparing for the interview, structuring questions, handling difficult interviewees or topics, taking notes and recording your discussion, as well as different types of interviews: on the record, off the record, on background and not for attribution. He provides helpful tips and examples from his own and his students' work on each of these topics. Besides interviewing scores of people in the US,

Nelson has also worked with interpreters in far-flung locales—a detail the translator half of my brain found particularly interesting.

Beyond hearing about Nelson's own advice and experience, we also learn how other journalists approach these issues—and sometimes contradict his advice. For example, Nelson writes a structured list of questions before an interview, but he also quotes a colleague who only plans his first question and leaves the rest open-ended. Similarly, while emphasizing the importance of having a record of the interviewee's answers, Nelson discusses various approaches to doing so—from two voice recorders plus handwritten notes to notes only. He recommends recording plus notes, to guard against equipment failure or mishearing/incorrectly writing down a quote.

Talk to Me: How to Ask Better Questions, Get Better Answers, and Interview Anyone Like A Pro includes case studies—excerpts of interviews conducted by famous journalists—with Nelson's commentary on these. While most are examples of how to do it well, the book concludes with an interview done badly, again with comments about what went wrong and why. In this case, the interview turned into an argument between interviewer and celebrity guest. There may be people whose views you find so repugnant that you do not want to talk to them. That's fine, Nelson says, but you need to consider beforehand: "What line will you not cross?" (p. 356).

Many of the Nelson's own experiences involve people who are not used to speaking to the media. You may need to ask painful questions, but you also must be a mensch (a good person), as we say in Brooklyn. "Your own humanity matters as much as the humanity of your sources," Nelson reminds us (p. 45). This may mean reminding non-celebrities that anything they tell you may be published. While journalists often intrude in ordinary people's lives, they may also help them cope with traumatic experiences. Nelson reminds us: "The point is that you asked, you listened, and you acknowledged that their voices mattered" (p. 375).

Barbara Jungwirth

Barbara Jungwirth writes about medical topics (www.bjungwirth.com) and translates medical and technical documents from German into English (www.reliable-translations.com). She has written for print and online media since her high school days and majored in media studies. You can find her on Twitter at @bjungwirthNY.

MediaWriting: Print, Broadcast, and Public Relations

W. Richard Whitaker, Ronald D. Smith, and Janet E. Ramsey. 2019. 5th ed. New York, NY: Routledge. [ISBN 978-1-138-34178-4. 402 pages, including index. US\$84.95 (softcover).]



Technical communicators may not think that we write for the public eye, as will future reporters, announcers, and speech writers—the intended audience of *MediaWriting: Print, Broadcast, and Public Relations*. But that assumption would be wrong. Our manuals may travel around the world and be translated into many languages. Training material for salespersons and technicians may contain a typo or pronoun that is offensive. And what about those blog articles we are tasked to quickly produce, that speed away faster than any printed word?

This fifth edition is worth its weight in gold in 2019 where political correctness (PC) outweighs all other media writing facets; where the allegation of Fake News out-trumps even plagiarism; where today's mantra is to avoid offense. Surprisingly, “fake news” has been around since the thirteenth century B.C., when *MediaWriting* claims generals over-reported their successes with victory scenes carved on temples and monuments.

Wisely, the authors have covered the basics first. Matter of fact, I'm the one guilty of almost skipping chapter 2 on Fundamentals of Writing and Editing. Good thing I didn't. I found out that media writing students are being taught to communicate rather than document, as were the old-timers. This chapter alone could foster better understanding in today's workplace. Writing by the new generation will seem less amateurish; and we can understand why a new person might at first glance assume we are old fogies.

“How To” boxes and “It Happened to Me:” vignettes in this reference book are where the rubber (and theory) meets the road. The student learns the cost of a misplaced comma (\$5 million) or witnesses the cutting of content in the newsroom (when an accident upsets a planned newscast) and comes to appreciate the value of limited space and time. Discussion questions and exercises follow each of the sixteen chapters. Topics covered within *MediaWriting* include crafting leads, legal considerations, ethical questions, interviewing and using quotations, guidelines for creating various types of writing for reporting, publicity releases, and

speeches—skill sets every technical communicator will not mind learning about or brushing up on, even mid-career.

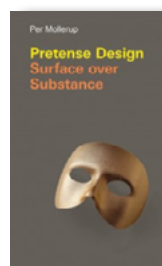
I was especially interested to learn more about media writing as an author who must market my own books. I found the text easy to read, with content entertaining and informative. I expect to use what it teaches when I speak in person, on radio or TV broadcasts, and through the latest trend of podcasts. We technical communicators can always pass along our legacy by sharing years of expertise with others, in print or through the spoken word.

Donna Ford

Donna Ford has been an STC member, joining the Connecticut chapter in 1990 and serving on her local board for many years. She has been a technical writer since 1987 in the hardware, software, and government healthcare industries. Donna holds a certificate in Information Design from Bentley College. She also reviews books online for the US Review of Books.

Pretense Design: Surface over Substance

Per Mollerup. 2019. Cambridge, MA: The MIT Press. [ISBN 978-0-262-03948-2. 216 pages, including index. US\$32.95.]



Danish designer Per Mollerup is at his best when he writes straightforwardly, as when he defines the central point of *Pretense Design*: “Pretense design pretends to be something it is not All thinking builds on concepts; design thinking needs the concept of pretense design. We think much more clearly about the pretense design category when it has a name” (p. 15).

The chapter “Object Language” outlines the author's analysis of pretense design, “which in some way or another misrepresents its true nature in order to impress somebody” (p. 56). He becomes uncharacteristically entangled in a maze of seven dimensions: truth-bending levels (“the truth edited, the truth on standby, and the truth suspended”), objectives, modes, perceptibility, roles, communication elements, and meanings. His several tables help show relationships between dimensions but also suggest that the whole scheme is convoluted.

Fortunately, Mollerup organizes his four central chapters simply, according to the pretense design objectives. It's great fun to sprint through these chapters, taking in the strikingly colored photographs (roughly half of the book) that illustrate beautification, amusement, substitution, and deception.

We see beautification heralded in ads for “body paint” sold by Clairol and Estée Lauder. *Trompe-l'œil* used to make a low ceiling appear tall, a Chinese town built to emulate a British market town, and faux wooden panels on a Chrysler station wagon illustrate amusement. Display dishes in a Japanese restaurant show substitution. And we see deception at work in naval defensive camouflage and wildfowl decoys.

Mollerup's analysis seems valid in that he alerts us to realities beyond what we see. Overall, however, his view is limited and can itself be deceiving, especially with beautification. Seeing a beautified object as “the truth edited” seems shortsighted if we look more broadly and see its beauty to be part and parcel of the object. Mollerup's approach does nothing at all to help us understand and appreciate the achievement of, for example, a designer such as Lisa Carney (at <https://www.lisacarney.com/>), whose astounding movie posters expand on simple objects through layers of beauty to become new objects that inspire us.

I definitely have mixed feelings about the index. It's fully detailed, but maybe overly detailed in its referencing every object mentioned in the book. Its structure of a single running list is simple, but that design eliminates any sense of hierarchy, so that *tattoos* (discussed in just one paragraph) seems as significant as *camouflage* (a main subject).

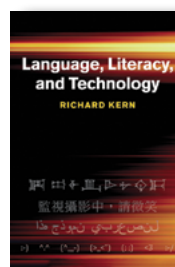
Mollerup has indeed contributed in giving a name to a cluster of strategies ubiquitous in life and art. We now must see if the naming of “pretense design” leads to more rewarding insights for graphic designers and technical communicators.

Avon J. Murphy

Avon J. Murphy is an STC Fellow and technical editor in western Washington. A retired college professor and government writer, he is a contractor and principal in Murphy Editing and Writing Services, specializing in computer and Web technologies. Avon served as book review editor for *Technical Communication* for 17 years.

Language, Literacy, and Technology

Richard Kern. Cambridge, UK: Cambridge University Press. [ISBN 978-1-107-64285-0. 292 pages, including index. US\$1.99 (softcover).]



In *Language, Literacy, and Technology*, Richard Kern analyzes historical and emerging forms of literacy as the basis for establishing a “relational pedagogy” of “semiotic awareness” (p. 258). He expands the traditional definition of literacy by subsuming it within the broader semiotic principle that meaning arises from the relationship

between all aspects of a communication: not only words but also the medium or material employed (clay, paper, text message), the method or technology used (handwriting, printing, sign language, imagery), and the context within which the message is interpreted.

Kern derives five basic pedagogical principles from his analysis. First, “Meanings are situated and relational, not autonomous,” so that what “x” means depends on the context: $2 \times 2 = 4$ vs. “X marks the spot” (p. 222). Second, language and literacy require both convention and invention, a shared baseline for mutual understanding and the ability to deviate from it as situations require or opportunities arise (for instance, standard English vs. texting abbreviations such as “CU” for “see you”). Third, the medium matters—audiences respond differently to the same content presented in different ways, such as reading a book rather than watching a video of the same topic. Fourth, texts are always multimodal, so we must consider the relations between all aspects of the medium, “linguistic and non-linguistic,” when we process meaning (p. 246). Finally, understanding mediation reveals how texts influence our identities, enabling us to exert greater control in defining our own selves.

This expanded pedagogy involves the student in the “*design of meaning*”—using preexisting designs or texts to create transformed or redesigned meanings that can be inferred by the audience; and doing so with full semiotic awareness or “reflective consciousness” of how all aspects of the communication, including the non-verbal and the material, interact to “*mediate and transform meaning*” (pp. 2, 234).

As such, Kern's pedagogy broadens and updates traditional approaches to designing meaning. From the Sumerians to text messaging the same basic ingredients of communication—medium (material embodiment

of the message), method (technology or form of the message), and meaning (context or recovery of authorial intention)—are always present. New technologies do not replace the old, they “co-evolve and remediate one another” by imposing or enabling inventive possibilities: the smart phone’s small keyboard and the constrained messaging space lead to innovative abbreviations such as “h8” for “hate” and emojis for words (p. 220). The new technology uses both conventional English words and the creative redesign of their signifiers, “recycling old materials in fresh ways” (p. 34).

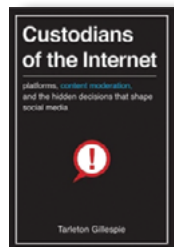
As an example, Kern’s pedagogy would situate Shakespeare’s plays within a single semiotic system that integrates the underlying, baseline script with all past and future production and interpretation, in whatever semiotic form the works are communicated. By developing a practical relational framework, Kern provides instructors with a tool immediately useful for teaching literacy as the functional semiotic awareness demanded by our increasingly multimodal forms of communication.

Donald R. Riccomini

Donald R. Riccomini is an STC member and a senior lecturer in English at Santa Clara University, where he specializes in teaching engineering and technical communications. He previously spent twenty-three years in high technology as a technical writer, engineer, and manager in semiconductors, instrumentation, and server development.

Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media

Tarleton Gillespie. 2018. New Haven, CT: Yale University Press. [ISBN 978-0-300-17313-0. 304 pages, including index. US\$30.00.]



Tarleton Gillespie’s *Custodians of the Internet: platforms, content moderation, and the hidden decisions that shape social media* provides an in-depth demolition of the illusion that is platform neutrality. His detail, breadth, and depth are amazing and refreshing. His tact and tenor are

collegial, and he presents his case not with any joy in destruction or “I told you so” tone; rather, it’s almost as

if he is sorry to disappoint believers in technological neutrality that the myth isn’t real.

As such, the book is more likely to change readers’ minds than any heated water cooler conversation or Internet comment exchange. Gillespie is neither a pundit nor evangelist; instead, his approach to platforms, and their bias, is overwhelmingly practical and civil. This civility helps mirror one clear goal, to help address a core problem: How do we establish, foster, and maintain civil discourse across an array of Internet-based platforms like Twitter, Instagram, Facebook, and hundreds of others?

Gillespie covers legal liabilities and corporate responsibilities for platforms. His close readings and analyses of platform community guidelines are thoughtful and illuminating. Gillespie pairs his critique and problem identification with possible solutions, and he offers three possible approaches in his fourth chapter. Gillespie also scales from “community guidelines” and the general lack of corporate accountability for posts made to their sites (legal loopholes for companies to not be held accountable for user content unless a complaint is filed) down to the grind of reviewing content at an individual level in Chapter 5: The Human Labor of Moderation.

One of *Custodians’* central values, particularly for professionals and researchers working in or with technology and platforms, is its detailed and documented discussion. While much of what Gillespie covers is basic for working professionals, *Custodians* can work as a bridge with non-experts, clients, or administrators considering adopting a new technology or platform. This book could be something to help them better understand, in a voice that is not yours, some of the complexities and challenges involved in the work. Gillespie and his book can operate as an external consultant or expert who can write and speak in a voice and tone that his non-expert audience respects and understands.

For university courses, *Custodians of the Internet* is ideally suited for undergraduate or graduate students given the book’s readability and conceptual accessibility. These same traits make it a great entry point for audiences who adhere to the faith that technology cannot be biased, replicate bias, or foster structural racism. For faculty and staff reading groups or professional development, this book offers a pleasant, engaging read as well as relevant content. This is a well-written, accessible, and engaging read on one of the

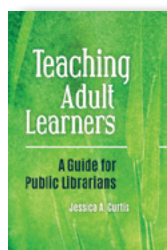
Internet's most pervasive problems; it is worth buying and reading.

Gregory Zobel

Gregory Zobel is an associate professor of Educational Technology at Western Oregon University.

Teaching Adult Learners: A Guide for Public Librarians

Jessica A. Curtis. 2019. Santa Barbara, CA: Libraries Unlimited. [ISBN 978-1-4408-6544-2. 134 pages, including index. US\$55.00 (softcover).]



Jessica Curtis' *Teaching Adult Learners: A Guide for Public Librarians* is a practitioner-geared instruction manual for public librarians who want to engage adult patrons. Technical communicators can apply this book's practical advice for engaging a varied audience in a variety of contexts.

She emphasizes the role of instruction in public libraries and the need to educate adults effectively. In an online world, libraries must increase technology literacy to provide access to electronic resources, but they must also focus on the community, tailoring adult education programs to local problems and patrons. Curtis explains, "Each library proves their worth to the public as a learning hub by taking an active role in the dissemination of information and applicable skills. They can serve a strong community role by being a technology hub and tool-giver, providing what users need when they need it" (p. 6).

Curtis introduces common populations and situations that arise in the library and practical ways to engage each patron in active and passive learning situations. There are practical examples of active instruction (formal classes) and passive instruction, such as displays and handouts that connect patrons with the content they need. For example, active instruction for "New Adult" patrons might include Adulting 101 classes on life skills topics like bill paying and cooking, while passive instruction might include creating a display of similar skill books near the fiction shelves these patrons frequent (p. 17). For technology users, classes on common software are popular, but you can also post frequently asked questions or instructions in the locations that patrons need them, such as by the printer or copier (p. 11).

Curtis also provides an overview of the three adult learning styles: visual, auditory, and kinesthetic/mechanical (p. 42). Visual learners learn by seeing; auditory learners, by hearing; mechanical learners, by doing. She encourages considering these learning styles in library presentations and materials to engage library patrons, but technical communicators can also apply this strategy to reach their users. For visual learners, include images such as graphs, videos, or handouts they can refer to later (p. 43). For auditory learners, make sure to explain steps out loud and paraphrase presentation content as you go along (p. 44). For mechanical learners, provide writing materials for note-taking, and, when possible, encourage them to follow along on a device (p. 46). Keeping all three learning styles in mind when planning a presentation will help you reach more users. In online materials, links to instructional videos and handouts provide the most coverage for the three learning styles.

Teaching Adult Learners is a practical guide for public librarians, but many of its concepts apply to technical communication. The book's short chapters are well-organized and succinct, while still being detailed enough to give illustrative scenarios and tips. Each chapter's bibliography points readers in the right direction if they want to dive into a specific topic more. The main takeaway is this: your users are diverse in their goals and their learning styles, so a one-note approach will not reach them all. For maximum learning, you need to provide more than one way for users to engage with your content.

I recommend *Teaching Adult Learners* to librarians and anyone interested in library science or community engagement projects. Additionally, technical communicators can read this for a brief introduction to adult learning styles and how to create content that teaches them best.

Bonnie Winstel

Bonnie Winstel is the product specialist for a small software company in Huntsville, Alabama. She received her master's degree in English and Technical Communication at the University of Alabama-Huntsville in 2013.

Design History Beyond the Canon

Jennifer Kauffmann-Buhler, Victoria Rose Pass, and Christopher S. Wilson, eds. 2019. New York, NY: Bloomsbury Visual Arts. [ISBN 978-1-350-05158-4. 246 pages, including index. US\$114.00.]



The study of design history is a relatively new field, with the first 20–30 years of its development being focused on researching, understanding, and establishing a canon. The next steps, as prescribed by many leading design historians, is to explore design history beyond this

canon, to push the boundaries and to perhaps even reimagine what the canon looks like. *Design History Beyond the Canon* does just that. Editors Jennifer Kauffmann-Buhler, Victoria Rose Pass, and Christopher Wilson bring together eleven essays that will challenge readers and their understanding of the canon.

This book and its essays are the result of a 2015 National Endowment for the Humanities (NEH) funded summer institute titled “Teaching the History of Modern Design: The Canon and Beyond,” which brought together people of various backgrounds who all teach design history. One problem with teaching design history in the United States is that there are no dedicated programs of study for PhDs in the field; as a result instructors and design historians tend to come from all over, and art historians as well as design practitioners are often conscripted to teach design history at universities, with little or no formal training in the instruction of design history or design history itself. The institute included various sessions which workshopped curriculum development and pedagogical issues. Additionally, sessions were held that challenged traditional ideas about design history, its instruction and curated objects that tend to “favor objects that were rare and expensive over those that were ordinary and affordable” (pp. xx–xxi). The resulting essays are an excellent reflection of the institute’s success and outcomes.

The essays presented in *Design History Beyond the Canon* are divided into three sections: Users/Consumers, Intermediaries, and Designers. An essay titled “*Kul’ttovary*: Bringing culture into the Soviet home” is an excellent example of exploring design history that is ordinary and affordable, while “Confronting racial stereotypes in graphic design history” explores racial stereotypes, but also presents

ideas on how to discuss race in the design history classroom and integrate it into the curriculum. Finally, “CLOTHES CLOTHES CLOTHES PUNK PUNK PUNK WOMEN WOMEN WOMEN” challenges the current accepted canon that implies men were leaders in the field of punk fashion, placing instead women at the forefront of the groundbreaking subcultural movement.

Design History Beyond the Canon is easily one of the best design history books I have read this year. As a design historian and professor of design history, I do consume many design history books throughout the year. This is a collection of seemingly unrelated essays with their only link being that they all explore design history beyond the canon. The editors bring the essays together beautifully; the Forward and Introduction serve the collection well, and set a stage for reading the individual essays with an understanding of how they all came together. Each essay is thought provoking, revealing insight that is not found in average design history textbooks. This is the design history we need.

Amanda Horton

Amanda Horton holds an MFA in Design and currently teaches graduate and undergraduate courses at the University of Central Oklahoma in the areas of design history, theory, and criticism. Ms. Horton is also the director of the Design History Minor at UCO.

What Game Are You Playing?: A Framework for Redefining Success and Achieving What Matters Most

Robin Moriarty. 2019. Austin, TX: Greenleaf Book Group Press. [ISBN 978-1-62634-653-6. 168 pages. US\$20.95.]



Are you satisfied with where you are in life? Is the game you’re playing satisfying to you?

When I first received *What Game Are You Playing?: A Framework for Redefining Success and Achieving What Matters Most* to review, I was thinking that I don’t play games at work.

Neither do I play “games” outside of work. However, I became intrigued with what Robin Moriarty was presenting when I read: “So when you start trying to do something different, both you and others around you feel uncomfortable and struggle; in many ways, that discomfort is what pulls you back to

the status quo. It's what pulls us back to acting 'normal,' and it's what keeps us doing what is expected instead of branching out to do something different" (p.7).

Moriarty points out that when we talk about our lives, we say how busy we are and most of us are exhausted by the end of each day. We often wonder what the objective is of the so-called busyness. So, she then suggests we reflect on whom we're trying to please and how we're trying to do so. Also, she suggests that we don't measure ourselves against an externally imposed timeline. For example, we shouldn't think we should be married by a certain age or hold a certain position by a certain age. However, we should focus on what brings us joy and not compare ourselves with others.

I found it helpful to first create a time map of my week and evaluate what my usual day looks like. For me, my work week is generally the same schedule. However, my weekends consist of a variety of activities. When I completed the time map of my week, I was surprised about how little free time I have.

I then continued reflecting on the four questions that she suggests are important that we take the time to ask: What is the objective? What are the obstacles? How do you play? How do you keep score? This four-question process allows you to start by thinking about your everyday life.

She includes different "games" people play: for example, maximize the free time, experience it all, build for the next generation, creativity and expression, and create a calm environment.

It is always good to step back and reflect on our goals and our schedules to assess if we need to adjust our career or personal goals. I found Moriarty's four questions to be helpful. Personally, I evaluate my goals quarterly at the change of the season. Also, I keep long-range (five-year) goals in place, as I find it helpful to look beyond the typical annual assessment.

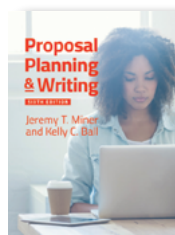
To download a free excerpt of *What Game Are You Playing?* and take a quiz, *How Gutsy Are You?*, visit Moriarty's website: whatgameareyouplaying.net.

Rhonda Lunemann

Rhonda Lunemann is a technical writer with Siemens Digital Industry Software, a senior member and serves on the Program Committee of STC's Twin Cities Chapter, and a member of the MN (Minnesota) Bot Makers.

Proposal Planning and Writing

Jeremy T. Miner and Kelly C. Ball. 2019. 6th ed. Santa Barbara, CA: ABC-CLIO, LLC. [ISBN 978-1-4408-6332-5. 292 pages, including index. US\$109.00.]



Proposal Planning and Writing "is a comprehensive reference source for grantseekers" and "comprehensive" is indeed the correct descriptor (p. vii). This book provides a holistic method for finding, developing, writing, and revising proposals. While one would be well-served by reading this text

from cover to cover, the abundance of useful information throughout this book may be even more useful if read step-by-step during the proposal planning and writing process.

Miner and Ball break this book into four distinct parts, which are, in turn, composed of chapters. In Part I: Finding Sponsors and Planning Proposals, readers are introduced to grantseeking, guided through finding private and public funds, and instructed how to gather essential information that is not listed in requests for proposals by contacting past grant winners, reviewers, and program managers. Part II: Writing Private Foundation and Corporation Proposals and Part III: Writing Government Proposals details the complex process of writing proposals to private and government entities, respectively. Part IV: The Final Steps gives helpful writing and editing tips that are applicable to all proposal documentation, which will be of interest to technical communicators, and it also explains what to do after a proposal is submitted.

For each chapter, the writers provide helpful subsections, such as the purpose of the proposal section, key questions, writing tips, rejection reasons, "grant gaffes," and starter sentences. These subsections are supplemented with helpful charts and images called "Exhibits," as well as copious examples and sample documentation to show readers what the writers' methods look like in practice and how the methods can be modified to fit different rhetorical situations and for different funding entities.

While there are not many flaws in *Proposal Planning and Writing*, the writers are occasionally too rigid with their tips and instructions. For instance, they offer a maxim for heading systems in Chapter 16, stating that "Level one headings should be centered, sans serif typeface (e.g., Arial), all capital letters, and 12-point boldface font ..." (p. 248). If a reader unwittingly

followed this maxim for a request for proposal that directs writers to use only specific fonts like Times New Roman throughout the proposal, the proposal would be non-compliant and possibly returned without review. Also, a section with full proposal examples (comparable to the letter proposal examples found in Chapter 6) from the largest funding entities like the National Science Foundation, National Institutes of Health, and NASA would be helpful.

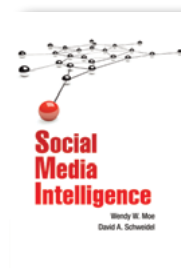
Overall, Miner and Ball provide readers with an easy-to-use reference text for understanding an otherwise confusing process that is now essential for many technical communicators, university researchers looking to advance their careers, and organizations trying to remain financially viable.

Dylan Schrader

Dylan Schrader is a proposal developer at the University of Alabama in Huntsville, where he also earned an MA in Professional Communication.

Social Media Intelligence

Wendy W. Moe and David A. Schweidel. 2019. Cambridge University Press. [ISBN 978-1-108-70802-9. 194 pages, including index. US\$39.99 (softcover).]



Social media has become an indispensable part of everyday life for millions of people all over the world. From social networking sites like Facebook or Instagram, to online reviews on sites like Yelp or Amazon, it's hard to escape the opinions of our friends and neighbors about the goods and services they consume. Those with

a vested interest in consumer feedback, such as business owners, have long been able to monitor the opinions of their customers, but, according to the authors of *Social Media Intelligence*, social media monitoring only describes what has already happened. They propose, instead, "social media intelligence," which "links social media data and metrics to strategic decisions and performance" and can guide an organization's next steps in terms of its social media marketing (p. ix).

Social Media Intelligence is organized into four parts: Foundations, Online Opinion or Online Noise, Conversational Trends, and Social Media Intelligence. The book includes an extensive index

that can aid the reader in navigating the text. Each of the eleven chapters ends with a list of sources used in the text which also serves to help readers locate more information on the covered topics. The book's layout is clear and easy to read; its few diagrams are simple, and the information illustrated is easily conveyed.

Social Media Intelligence starts with the basics of social media marketing by providing insight into the motivation behind online postings before exploring how the reader might sort through "online chatter" to extract real, quality data from the data mined in online analytics. Finally, the authors propose key steps in moving from the less effective social media monitoring to a state of true social media intelligence: when one can effectively utilize online feedback and incorporate it into an organization's business model.

The social media world is constantly and rapidly evolving. Originally published in 2014, this paperback version was released in 2019. In this time, there inevitably have been important updates in research that could make data presented in this text seem dated considering the topic's fast-paced nature. And while the concepts presented here are of interest to academics and laypeople alike, the book can read like a compilation of academic papers with its no-frills formatting and lack of eye-catching designs and illustrations. While this simple layout is common in academic journals, the authors of *Social Media Intelligence* might consider more visually stimulating formatting for future editions if they wish to appeal to a broader audience and perhaps to justify its price tag.

Social Media Intelligence is a thorough, well-researched exploration of what motivates someone to post an online review and how interested parties might use intelligently this feedback to guide their organization in making strategic and well-informed decisions.

Bryant Smith

Bryant Smith is Associate Professor in the Department of Languages and Literature at Nicholls State University in Thibodaux, Louisiana. He has written book reviews for *Hispania* and *The NECTFL Review*.

How We Teach Science: What Changed, and Why it Matters

John L. Rudolph. 2019. Cambridge, MA: Harvard University Press. [ISBN 978-0-674-91934-1. 308 pages, including index. US\$35.00.]



In this well researched and informative book, John Rudolph, a former high school science teacher, and now a university professor specializing in science education, shows that what goes on, or should go on, in the American high school science classroom has been the subject of

vigorous debate ever since science first became a taught subject in the 1880s.

Over the years, a long string of science educators, policy makers, and reformers have championed one method or another for conveying science to young students. Rudolph carefully chronicles the succession of methods, the personalities and agendas behind them, the arguments made, and how the methods succeeded or fell short, to be replaced by something else.

Among the major methods Rudolph covers are the laboratory method (which emphasized laboratory skills), the scientific method (which taught that science followed a five-step process for solving problems), and the science as inquiry method (which sought to correct inadequate portrayals of scientific practice). He also covers several ambitious initiatives intended to leverage the science classroom to meet various societal challenges—wars hot and cold, the space race, economic competitiveness—or further institutional objectives such as bolstering public support for institutional science.

Lest one think this is so much “inside baseball,” it turns out that what happens in the high school science classroom matters a great deal.

Most people get their first—and often only—exposure to science in high school and that experience shapes their impression of the scientific project for the rest of their lives. To make the problem more daunting, much is asked of high school science. In the short time allotted, it is expected to engage student interest, cover an ever-expanding volume of science content (what is known about the natural world), convey science practice (the methods scientists use to discover, establish, and extend scientific knowledge), produce scientifically literate citizens, meet the needs of those preparing for careers, and more. Privileging any of these

concerns often means shortchanging others, prompting new calls for reform.

Rudolph notes that ambitious reform initiatives, no matter how well conceived, tend to run aground in the classroom, where they must be implemented by existing instructors (with their own ideas of what works for them), external constraints, and students of differing acuities and interests.

Rudolph does not arrive at any final answers to how science should be taught, but he does offer well-reasoned suggestions as to where we should be headed. Among other things, to succeed a plan should include better teacher preparation and take a balanced approach that addresses not just social and institutional agendas, but helps students see science as relevant to their own lives.

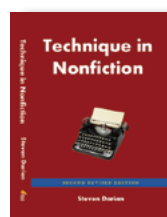
Anyone interested in science education and public policy should find much of value in *How We Teach Science: What Changed, and Why it Matters*. No program for reshaping science teaching should be attempted without a solid knowledge of what has gone before. For that knowledge, you are unlikely to find a better source than Rudolph's book.

Patrick Lufkin

Patrick Lufkin is an STC Fellow with experience in computer documentation, newsletter production, and public relations. He reads widely in science, history, and current affairs, as well as on writing and editing. He chairs the Gordon Scholarship for technical communication and co-chairs the Northern California technical communication competition.

Techniques of Nonfiction: Tools of the Trade

Steven Darian. 2019. 2nd ed. New York, NY: Linus Learning. [ISBN 978-1-6077-839-8. 338 pages, including index. US\$20.00 (softcover).]



Steven Darian's taxonomy of techniques and tools is a delight to read for the language lover, a clear yet eloquent guide for the new or established writer, and a remarkable work for wordsmiths at all levels who want to season their craft with the spice of elegance as easy to hear as it is to read.

I have known Steven Darian for nearly 50 years—as my first-year writing teacher in college, my creative writing teacher and lifelong mentor. It was he who taught me many of the techniques appearing in this

text, and his approach to writing, perhaps influenced by his background in Applied Linguistics, was so unique that it has influenced my writing for all these years. I taught from *Tools* in both my Feature Writing class and my Copyediting class in Journalism at the University of Rhode Island where I taught for 37 years.

What the students loved about the *Techniques of Nonfiction: Tools of the Trade* was that it is NOT a grammar guide (although one student confessed to me she finally understood the use of the semi-colon). Instead, they understood “audience.” That the reason to write well and clearly was not that instructors wished to torture them with rules, but rather that there were actually “people” on the other side of their writing. People who appreciate eloquence and style. The abundance of examples illustrates Darian’s concepts. The students were not used to a text that “showed” them what to do instead of “telling” them what to do. By the end of the semester, I began to read writing with style and grace from the students.

The second edition includes new material in Chapters 9 and 10; in fact, all the chapters shine with new examples and new concepts. I have the distinct feeling that Darian lives this text, always reading for techniques, always listening carefully in conversations... and always thinking about his work. As long as I have known Darian, he has delighted in language play. Writers are lucky to have this book as it will allow them to experiment, to write in a whole different way, and to learn to break the rules with panache. If the book has a flaw, it lies in an embarrassment of riches. There are a few sections where there are “too” many examples. Where the reader says “OK, I get it. Enough already.” But even in these moments, Darian’s enthusiasm is infectious, and annoyance fades quickly.

Although I have written about the book’s use for students, it is a gem for those adults who discover their job requires much more writing than they expected. Or for the retiree who has decided to write memoir. I do love *Techniques of Nonfiction* and plan to use it in the private tutoring I will be offering soon. I believe this is a book that will do well, given its variety of techniques and examples, its humor, and its voice—a conversational one. A voice as though Darian is just over your shoulder, saying “Now here’s a place where you might want to ...” And—you will.

Celest Martin

Celest Martin is a professor emeritus at the University of Rhode Island. She has taught over 33 writing courses, several journalism and disability studies courses. Celest’s great love is creative nonfiction. Since she retired in 2016, Celest is beginning a private tutoring business.

User Experience Design: A Practical Introduction

Gavin Allanwood and Peter Beare. 2019. London, England: Bloomsbury Visual Arts. [ISBN 978-1-350-02170-9. 162 pages, including index. US\$29.95 (softcover).]



User Experience Design: A Practical Introduction’s name may deceive readers into assuming this is a simple usability primer, however this is not at all the case. From the first pages of the introduction to the last chapter, Gavin Allanwood and Peter Beare give the reader a thorough, crisply designed, appropriately detailed, and one could reasonably argue, surprisingly playful launch into a complex, multidisciplinary field.

If you are an experienced hand at user experience (UX), your first impression may well be that this is yet another bland addition to the library shelf. But when you put yourself in the seat of the intended reader (one of the authors’ primary goals), it’s clear the authors practice what they preach. Not only have they met the goals of usability, but they have done so with a clarity and warmth often lacking in introductory texts.

User Experience Design is organized into six chapters covering different UX design aspects. The two chapters focusing on the design process and design constraints clearly emphasize the interdisciplinarity of the field. There are also 12 detailed hands-on activities that give readers an opportunity to apply the information described in each chapter. Activities are well-designed and ask the reader to consider topics such as Gestalt theory, user journeys, and semiotics when creating a pleasing, effective user experience. These activities may be too extensive for classroom-based instruction, but they are an excellent way to apply the theories and principles laid out in each chapter.

Although this book is aimed at novices, practitioners and academics in the UX field will find the discussions of aesthetics, semantic design, and

ideation insightful and nicely articulated. For example, in the chapter on users, Allanwood and Beare explain how errors in design “are more often the result of a design that misleads, confuses, or distracts” and then go on to categorize and explain the causes and possible solutions from a UX perspective (p. 32).

As one might expect from a UX book, *User Experience Design* offers a visually and textually accessible work. Allanwood and Beare provide a useful glossary and a brief description of books they cite and recommend as additional reading for those interested in learning more about the subject. The tactile nature of the quality paper, the relaxing typeface and spacious layout, the considerate tone of the text along with plenty of real-world examples and illustrations all combine into a truly usable and inviting book.

Lynne Cooke

Lynne Cooke is currently a Clinical Assistant Professor at Arizona State University where she teaches courses in technical communication, digital writing, and usability. She has presented at several STC conferences and has published two articles on eye tracking in STC's *Technical Communication* journal.

Develop Your Presentation Skills: How to Inspire and Inform with Clarity and Confidence

Theo Theobald. 2019. 4th ed. London, England: Kogan Page. [ISBN 978-0-7494-8635-8. 170 pages. US\$14.95 (softcover).]



If you've been asked to give a presentation at work or other occasion, panic may be your first instinct. After all, public speaking can be a daunting experience that can cause even the most practiced presenter anxiety. Fortunately, *Develop Your Presentation Skills: How to inspire and inform with clarity and*

confidence is both an introduction and refresher text that provides guidance through the presentation process. From formulating an engaging introduction to handling the question-and-answer session, Theo Theobald provides multiple tips, hints, and tricks for creating professional presentations.

The book's strengths are its brevity and conversational tone. Each chapter is broken into short sections of two to three paragraphs, making it perfect for the reader who wants to quickly access

relevant content. Bold headings and subheadings make the reading visually accessible and summary points highlight the key message of each chapter.

Since the goal of public speaking is not only to inform but to engage the audience, Theobald provides solid advice on how to use storytelling, anecdotes, and humor to connect with the audience: “Being funny can be the best way of making a terrific presentation...because humor is like dynamite – fantastic if it explodes in a spectacular display of fireworks, less good if it goes off in your face” (p. 47). He follows up this statement with when, and, more importantly, how to use humor to your advantage in even the most ordinary presentation topics. As a seasoned presenter and instructor of public speaking who has witnessed numerous mediocre presentations, I found myself wanting more information about how best to use PowerPoint (which the author refers to as a “high tech tool.”) He devotes a mere three pages to the topic and gives obvious advice such as avoiding fancy transitions and limiting the number of bullet points on a page. With TED Talks proliferating on YouTube, I was surprised there was no discussion of how to choose and use graphics, and very little about how to best use color for creating visually sophisticated presentations.

The book correctly notes that non-verbal cues such as confidence, appearance, and vocal delivery account for many factors that influence an audience's engagement and interest in a speaker. Theobald observes that eliminating vocal garbage and developing a stage presence can improve the effectiveness of a speaker; however, he falls short of offering advice as to how to accomplish these things.

Develop Your Presentations Skills is a good choice if you're looking for a quick guide to developing presentations or a refresher on the topic. By boosting your confidence and your effectiveness, you may even find yourself enjoying presenting to all types of audiences.

Lynne Cooke

Lynne Cooke is currently a Clinical Assistant Professor at Arizona State University where she teaches courses in technical communication, digital writing, and usability. She has presented at several STC conferences and has published two articles on eye tracking in STC's *Technical Communication* journal.

Type and Color: How to Design and Use Multicolored Typefaces

Mark van Wageningen. 2020. New York, NY: Princeton Architectural Press. [ISBN 978-1-61689-846-5. 180 pages. US \$35.00.]



In *Type and Color: How to Design and Use Multicolored Typefaces*, author Mark van Wageningen, principal of the type foundry Novo Type, explores the design and future of multicolored typefaces. The book's heart surrounds van Wageningen's personal project

designing a multicolored typeface, named Bixa, originally designed for letterpress and then converted to a digital typeface for both print and Web. In presenting Bixa's design, van Wageningen also addresses essential theory and the how-to on designing fonts for the reader. *Type and Color* is a beautiful book for typophiles who love both type and color.

The book contains a blend of type design theory and an informational how-to. The author explains how to design a font, in a way that could help the reader design a standard black and white font, but also explores the how-to on designing a multicolored font, along with the nuances necessary for the differences. The theory includes the standard practices involved in the process; in the discussion of theory van Wageningen explains, "Good letters maintain a perfect balance between order and chaos" (p. 69). Other helpful advice found within *Type and Color* includes how to export files and how to set up a foundry. This information is essential for anyone wanting to design and license their own typefaces. The book also explains how to license your font through a distributor, if managing your own foundry is not for you.

The author identifies his intended audience as experienced designers, typographers, and students, though the designing of a font seems a bit problematic for any but the most advanced students. Also, due to this wide audience range, there is likely to be a lot of content that more advanced readers will already be familiar with, such as the explanation of RGB versus CMYK color. Additionally, the order in which some of the information is presented seems a bit odd, yet van Wageningen includes all the necessary information on how to design a typeface and a multicolored typeface. The undogmatic approach, as he puts it, might be exactly what students and non-type designers need to really get experimental with type design.

Type and Color is filled with beautiful examples of multicolored typeface designs including the body copy itself. Some might find the colored body copy a bit off-putting, but this is part of van Wageningen's argument on color being the next horizon of type design. He acknowledges that colored fonts will be visually jarring to many people because black-and-white text is so entrenched in our culture. However, he also notes that textura fonts, which were used in the earliest days of printing and were once widely popular for their perceived readability, were based on the handwriting of scribes at the time and are now viewed as difficult to read. Will multicolored fonts be like the original sans serif types, not widely regarded when first introduced, only to be accepted roughly 100 years later? It will be interesting to find out.

Amanda Horton

Amanda Horton holds an MFA in Design and currently teaches graduate and undergraduate courses at the University of Central Oklahoma (UCO) in the areas of design history, theory, and criticism. She is also the director of the Design History Minor at UCO.

Microsoft SharePoint for Dummies

Rosemarie Withee and Ken Withee. 2019. Hoboken, NJ: John Wiley & Sons, Inc. [ISBN 978-1-119-55065-5. 400 pages, including index. US\$29.99 (softcover).]



Microsoft SharePoint for Dummies is for you if your organization is running SharePoint Online or SharePoint Server 2019. It also covers the SharePoint Mobile App for iOS and Android.

The book's 26 chapters are divided into six parts: Getting Started with SharePoint, Diving Headfirst into SharePoint, Customizing SharePoint, Becoming a SharePoint Administrator, Managing Enterprise Content, and The Part of Tens (Ten Hot SharePoint 2019 Topics, Ten Ways to Maintain Control with Governance, and Ten Ways to Become a SharePoint Server Guru). The following topics are new:

- Creating workflows using Microsoft Flow and connecting that workflow to other services.
- Building forms with Microsoft Forms and sending the collected data to SharePoint.

- Building your own mobile-based apps with PowerApps.
 - Creating data dashboards with Power BI.
- If it's your job to get and keep SharePoint up and running for your organization, you'll find instruction for:
- Creating sites and hub sites: Learn how to create your own site using templates, and how to access it in Office 365 and via the SharePoint Mobile App.
 - Working with lists and libraries (a.k.a. apps), and Web Parts: Find the best way to incorporate reusable components to display content on Web pages in SharePoint.
 - Using SharePoint with Teams: Discover how SharePoint is closely integrated with Teams to upload files to Teams and add content to the Teams wiki.
 - Customizing SharePoint with apps: Plan, create, and take your apps to the next level.
 - Using the SharePoint Mobile App: Provide your organization's intranet "right in your pocket."
 - Integrating with Office 365: Create and save files to SharePoint, and open files saved in SharePoint.
 - Managing enterprise content: Meet your organization's need for document and record management, including support for metadata.

While many of us start a book from the beginning and read to the end, *Microsoft SharePoint for Dummies* was written so that you can jump in anywhere you like. Whether you are a developer, an IT professional, a manager, or someone who is curious about using the product, this book will show you how to get the most out of SharePoint.

Michelle Gardner

Michelle Gardner, CPTC, is an STC member and a technical writer for Thomson Reuters. She has a bachelor's in Journalism: Public Relations from California State University, Long Beach, and a master's in Computer Resources and Information Management from Webster University.

Adobe Captivate 2019: The Essentials ("Skills and Drills" Learning)

Kevin Siegel. 2018. Middletown, DE: IconLogic. [ISBN 978-1-944607-34-0. 246 pages, including index. US\$39.00 (softcover).]



Adobe Captivate 2019: The Essentials ("Skills and Drills" Learning) covers a lot of beyond basic concepts in Adobe Captivate 2019. Each module offers one or more student activities for each concept. In the introduction, it is made clear that later modules rely on experience gained in previous modules.

It is highly recommended to read and perform the modules in sequence.

The first three modules cover caption pre-editing, object styles, project sharing, branching, variables, and widgets. This information provides a good grounding for all the succeeding modules.

Kevin Siegel then leads the reader through interactive video, virtual reality, interactions, and accessibility. The last four modules cover advanced actions, masters, themes, templates, responsive projects, and reporting results. This book has lots of useful information, but much of it is buried in wordy sentences. The student activities are excellent at teaching the concepts.

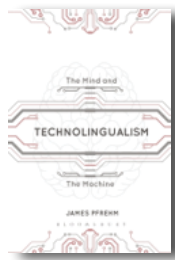
Adobe Captivate 2019 is a comprehensive workbook with useful skills training on concepts. It could do with another substantive editing round to remove many of the filler words.

Rachel Houghton

Rachel Houghton is owner and photographer at Sonora Blue Media. She has over 22 years of technical communication experience. Rachel is an STC Fellow, a former STC Secretary, past program chair of the STC Technical Communication Summit, and is involved in the STC Arizona community. She enjoys photography and Photoshop.

Technolingualism: The Mind and The Machine

James Pfrehm. 2018. London, England: Bloomsbury Academic. [ISBN 978-1-4725-7833-4. 292 pages, including index. US\$31.95 (softcover).]



Technolingualism: The Mind and The Machine is a phenomenal work that invites the reader to escape to all stages in writing history and to delve into the lives of inventors, creators, and the nay-sayers who believed the development of technology was insane.

Before opening the pages of the book, I take to the cover and recognize the simplicity. The simplistic cover is there not to overpower the books' words but to invite the reader to understand its purpose. It is not the outside of the book that matters but the inside with all the knowledge and history.

In the beginning chapters, the author wastes no time declaring his views: writing is "a manufactured ... technology" (p. 27). James Pfrehm's theory is that writing is not biologically natural to the ways of speech and technology. He supports his statement by citing others who have researched writing and contributed to the technology before him. We have examples of Socrates forbidding the process of written word, and Elizabeth Einstein, who studied printing in the western world. Pfrehm then leads his readers down the road of other languages and their writing technologies. For example, we are presented with the writing scrolls, the writing orb, and the printing press. His purpose is to let the reader see the evolution of writing and the effect it has on the developing technology.

In the middle chapters, *Technolingualism* jumps from different time zones, generations, and genres all by the simple subtitle. With the variety in titles, the reader can choose what interests them and what section they want to focus on the most. These include, for example, The Speech-Writing Continuum, Sign Language and Ideologies, and the Alphabet Effect. The entire book focuses on the importance of writing, the effect it has on generations, and, lastly, the benefits in having a variety of ways to communicate. As someone who thoroughly loves a good story, I appreciate Pfrehm in his incredible page-turner. The first page makes you wonder: "Where will he take me next?" I traveled the world in 250 pages and met amazing people. I listened as a dead man's ear inspired the telephone, how my current emojis tell a more farfetched tale than I could

ever imagine, and how my text messages can reflect a thousand different meanings.

Technolingualism is an excellent resource for potential technical communicators to understand the means of communication and how to captivate an audience even if the topic itself is tedious. Pfrehm scribes the ways of language and etches the mind into considering the different factors that affect how language leads to better technology. As Pfrehm states in his final sentence: "You, me, everyone who can read this final sentence—we are all technolinguals" (p. 250). A linguist benefiting from the effects of technology.

Whitney McCaulley

Whitney McCaulley is a graduate student at the University of Alabama in Huntsville studying Communication Arts. She has a strong focus in law and will be entering law school in 2020. She aims to help everyone and anyone, even if it is just one person.

Blogging for Dummies

Amy Lupold Bair. 2019. 7th ed. Hoboken, NJ: John Wiley & Sons, Inc. [ISBN 978-1-119-58805-4. 416 pages, including index. US\$24.99. (softcover).]



As an academic who teaches Web publishing courses, and as an experienced blogger, I admit that I shied away from the "For Dummies" series of books on Web publishing topics because I feared the books would be too simplistic for my needs.

As such, this seventh edition of Amy Lupold Bair's *Blogging for Dummies* was off my radar. I was pleasantly surprised to find that, although the book did focus more on the nuts and bolts of blog design and marketing more than the writing aspects, there was more to professional blogging than I had previously known.

Lupold Bair assumes that the reader has very little knowledge of blogging, which is in accordance with the "For Dummies" series. She begins with the very blogging basics, such as a description of what a blog is, how blogging developed as a Web genre, and choosing appropriate blogging services. From there, Lupold Bair progresses to the most advanced aspects of blogging, such as leveraging search engine optimization (SEO) keywords and dealing with blog sponsors.

One aspect I most appreciated about the book was its highly visual and well-organized chapters. *Blogging for Dummies* is a technical communication book that truly implements the best practices of writing for a novice audience. The chapters are comprehensive but easy to read, and the information within each chapter is clear and concise. Symbols for tips and warnings appear in the left-hand margin where the reader is likely to notice them. Lists are shaded and marked with bullet points for a handy visual reference. Lupold Bair also includes screenshots and other visuals on nearly every page, allowing readers to see real-life examples of the concepts under discussion.

This book covers an impressive array of topics, from the importance of writing modular contents (p. 23), to the ethics of blogging (p. 38), and even copyright rules for writing on the Web (p. 41). Advanced bloggers and Web writers will especially appreciate the amount of references and additional links Lupold Bair provides for readers seeking additional information. For example, she provides the link for the Federal Trade Commission (FTC) rules about accepting endorsements for blogs (p. 39). As an academic, I found this additional information very helpful for my class lectures.

If this book has a weakness, it is that it does not concentrate overly much on the actual act of writing for the genre. Lupold Bair provides several helpful tips for writing, such as how to overcome writer's block (pp. 200–211), and a discussion of writing anonymously and protecting your privacy (pp. 226–228), but there is not a lot of detailed discussion about choosing a style and learning how to adapt your writing to the audience.

Blogging for Dummies is an easy-to-use primer for new bloggers as well as an essential reference for experienced Web publishers and academics. Although it does not cover aspects of writing for the Web in enough detail to be a useful classroom textbook, anyone involved with blogging would do well to have a copy of this book on their shelf.

Nicole St. Germaine-Dilts

Nicole St. Germaine is an Assistant Professor in the Technical and Business Writing Program at Angelo State University, as well as a freelance writer and consultant. Her research interests include technical communication for a Mexican-American audience and technical communication in the health fields.

Watch Me Play: Twitch and the Rise of Game Live Streaming

T. L. Taylor. 2018. Princeton, NJ: Princeton University Press. [ISBN 978-0-691-18355-8. 300 pages, including index. US \$27.95 (softcover).]



T. L. Taylor opens *Watch Me Play: Twitch and Rise of Game Live Streaming* with a succinct history of the field. She gives readers a quick, solid foundation of its 20-year plus history before focusing on its largest institution, Twitch. This first chapter demonstrates

Taylor's deftly articulate style with her engaging blend of multimodal research methods' results, lively style, and contemporary cultural connections.

History set, Taylor transitions into Chapter 2: Networked Broadcasting where the connections to Twitch are multiple and explicit. For many, Amazon-owned Twitch is synonymous with live game streaming. For others, Twitch is the place where a German supremacist terrorist streamed his October 9th, 2019, synagogue attack. For those disconnected with gaming or streaming, Twitch was, until August 2019, home to Ninja, a gamer famous for his Fortnite play.

Chapter 3 on home studios is Taylor's most engaging work. First, she conducts multiple visits to home studios, interviews gamers onsite, and discusses her findings. Thoughtful and detailed, she explores economic impacts of small or large changes, mutual dependence between platforms and gamers, and the behind the scenes relationships between streamers and Twitch. Some parallels between the precarity of contingent academic labor and gamers are uncanny. If your child, cousin, niece, or friend's daughter is thinking about being a professional gamer, read this chapter if not this whole book.

Potentially paradigm shifting in terms of how we see gaming and TV is Chapter 4: Esports Broadcasting: Ditching the TV Dream. While focused tightly on the people, technology, and culture that have helped make Esports broadcasting become a thing, this chapter helps frame a larger argument that, essentially, dismisses television's relevance for many content consumers who live, work, and engage online. Within this chapter, Taylor addresses key concerns like equity, ethics, market development, consolidation, and competition.

Taylor's book is notable. First, each chapter is easily excerpted into related reading lists in communication, media, and sociotechnical and science

studies—not to mention education, popular culture, and online culture researchers. Second, Taylor is a joy to read. Her writing conveys her excitement and engagement, personal and professional presence, and yet she never overplays her first-person presence. Given these factors, this is a great mentor text for graduate students and junior faculty authors.

When framed within Taylor's career arc—MIT professor, author of multiple books on digital research and culture, advocate for inclusive gaming, public presentations and intellectualism—it becomes obvious that *Watch Me Play* is a brilliant tip to an iceberg of impressive, longitudinal research, scholarship, and public engagement. In today's current sociocultural confusion and miasma, scholars who also work and present as public intellectuals like Taylor, are vital for leavening out the discourse.

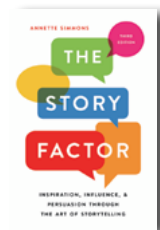
Fortunately, she has made a Creative Commons version of her book available for free download online: <http://watchmeplay.cc/book/>. This book is a joy.

Gregory Zobel

Gregory Zobel is an associate professor of Educational Technology at Western Oregon University.

The Story Factor: Inspiration, Influence, and Persuasion Through the Art of Storytelling

Annette Simmons. 2019. 3rd edition. New York, NY: Basic Books. [ISBN 978-1-5416-7349-6. 350 pages, including index. US\$17.99 (softcover).]



There've been several books on storytelling, but none that have drilled so deep. As an organizational consultant, Simmons helps organizations communicate effectively with storytelling. Of course, Simmons's focus is on speaking rather than writing. And

face-to-face has so many more communication channels than writing.

In her book, *The Story Factor: Inspiration, Influence, and Persuasion Through the Art of Storytelling*, stories are *in*. Of course, they've been *in* for 2000 years. But only in the last 10 years or so have they broken out of the cradle of mythology, religion, and fiction writing, and entered the world of business—even for data presentation.

But first, a definition: What exactly *is* a story? Is it “a narrative account of a significant emotional event”

(p. 36), or is it thinking “about the last time that you heard a story that touched you—a movie that has stayed with you” (p. 38), or is it a novel that changed your view of life. Or something significant you remember from 30, 40, 50, or even 60 years ago. Lots of names and places, sure. But the *significant* things are usually wrapped in a story.

Simmons repeatedly stresses that too much headwork and too little heartwork makes for dull communication. And heartwork comes from stories. “When we spend too much time talking to a person's rational brain, we neglect their emotional brain” (p. 9). She packs plenty of wisdom into her one-liners: “They [let] people ... come to their own conclusions” (p. 40). “When a story has been told for a thousand years, it must have something useful to say” (p. 31). “As a storyteller you borrow a story's power to connect people to what is important A good story simplifies our world into something we feel like we can understand” (pp. 33–34).

A sampling from her third chapter, “What Story Can Do That Facts Can't”: “Just as knowledge can become wisdom, so do facts become a story” (p. 58). “A good story helps you influence the interpretation people give to facts. Facts aren't influential until they *mean* something to someone” (p. 59). “Giving people facts as a method of influence can be a waste of time. When you give a story first, and then add facts, you stand a better chance of influencing others to share your interpretation” (p. 63).

One of the keys to telling a good story is to engage all the senses. Another is the sense of timing, especially pausing. To a certain extent, these can both be captured in writing. The more your language uses sense words—words that help the reader see, hear, smell, taste, and touch—the more interesting, convincing, and better-remembered your writing becomes.

As for pause, there are three ways to capture it in writing: (1) with punctuation (from weak to strong); (2) with white space; and (3) with words and phrases like: *Always remember. Stop and think for a moment. Consider this. Above all...*

Steven Darian

Steven Darian is an STC Fellow and retired from Rutgers University, where he taught business and technical writing as well as other language-related courses. Steven's book, *Technique in Nonfiction: The Tools of the Trade* (2019), is now in its 2nd edition.

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